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ONE CHILD'S PLAY

by

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A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
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THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled One Child's Play submitted by Lynda Rae Thomas in partial fulfilment of the requirements for the degree of Master of Education.

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Date July 19th, 1978

ABSTRACT

This naturalistic study attempted to describe and define the nature of one child's information processing (problem solving strategies) while he was engaged in free play at his day care centre. In other words how did Tod, the four year old selected for the study, make sense of the potential stimuli inherent in his day care environment?

The exploratory premise of this study was that young children select and solve problems during play in their environments. These problems were assumed to be child-defined, intrinsically motivated, and closely related to the developmental tasks of the early years. Growth was assumed to occur when the child had the opportunity to interact with relevant elements in the environment which would help to resolve those developmental tasks.

That such a position was not simply esoteric, seemed to be documented in the outcomes of the questions posed for this study. Thus, through self-selected activity Tod was engaged in nine developmental types of problems (self concept; peer perception; language and communication; real and pretend discrimination; mathematically related problems; kinaesthetic awareness; perception of motion; balance and large motor competency; and fine motor co-ordination). To grapple with those problem types he employed five basic types of strategies (manipulation and operation on the environment; use of his senses; imitation; representation; and asking questions of peers and adults). Practice was

afforded in several of the developmental problem types through the context of his socio-dramatic play themes (vehicle operation; daily life activities; fantasy related activities; and natural phenomena).

In collecting the data, the objective was to produce as full a description of Tod's play as possible. The naturalistic research techniques employed in this study were taped and written specimen description, summary, child interview, and field notes. The transcriptions of specimen descriptions were analyzed a number of ways (See Appendixes E, F, G, and H).

Following is an overview of this thesis: Chapter 1 defines the problem posed for this study; Chapter 2 reviews the literature relative to the need for research on play and summarizes the findings of a number of studies which suggested that play enhances problem solving; Chapter 3 delineates the rationale and methodology of naturalistic research; Chapter 4 presents findings specific to a first analysis of the data, findings which describe eighteen features characteristic of Tod's play; Chapter 5 presents findings specific to a second analysis of the data, findings related to Tod's problem solving and the problems posed for this study. Finally, a number of conclusions and implications are discussed relative to research on play, the methodology employed for this study, and the need for quality environments for young children (day care, school, parks and playgrounds).

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CHAPTER 1

The Nature of the Problem

Frequently early childhood educators are heard to voice their convictions that the child learns through play. While noting the social and emotional benefits of play, often the cognitive dimension is left undefined. (Almy, 1968, p. 359). This study attempted to describe and define the nature of the information processing of one four year old observed in a free play setting over an extended period.

The Exploratory Premise

The child is bombarded by a set of stimuli. He is not able to cope with the full range of stimuli and so selects only those stimuli perceived as relevant to a given situation. What is perceived as relevant will depend upon the child's experiential background, health, energy level, conditioning by important "others", cultural factors, and factors related to the learning climate of the setting.

The situations or problems which capture the child's interest are child-defined. It is within the child's perspective of his problem that the level of problem-solving behavior occurs. At certain critical times the child may be more sensitive to the resolution of problems of a given nature, and so seeks interaction with a range of entities within the environment (peers, physical concepts, classification systems, language exploration, motor exploration, representation, etc.).

The child is engaged in a range of developmental tasks intrinsically motivated and individual in nature. Growth occurs when the child has the opportunity of interacting with relevant elements in the environment which help to resolve these developmental tasks. Novel elements are accommodated, integration occurs, and the child is now prepared to meet a new range of problems, on a qualitatively different plane.

The Problem

This study attempted to document one young child's manner of making sense of the free play resources available at his day care centre.

The specific questions which this study attempted to answer were:

1. What types of problems and hence goals, does the child set for himself during free play?
2. What themes dominate his play and how does he use those themes to define and resolve his problems?
3. How does association with different peers pose different problems for the child?
4. How does the child use the time and space dimensions for problem solving?
5. In what way do the play things selected by the child, pose different problems to him (ie. structured vs.

unstructured toys)?

6. What behaviors does the child engage in when faced with problems which he cannot solve to his satisfaction?

CHAPTER 2

The Review of the Literature

Can the study of free play provide clues as to how young children process information? Historically this question was answered by Froebel and Montessori independently, by their observing free play and then translating those observations into program activities.

> With the reconstruction of the kindergarten and the . . . nursery school, a breed of educators developed who did not observe children in order to abstract and reconstruct from their activities the essential ingredients of life and learning. Rather they observed children and saw that what children do in play is real, is vital, and has within it the potential for learning about the world. They saw that play is used by children for testing out ideas, for abstracting information, and for somehow operating on this information (Spodek, 1974, p.10).

However, Sutton-Smith (1968, p.167) noted that while "exploratory and play behavior in child subjects correlates highly with information seeking in general", that essentially the play function remains a mystery:

> Despite the fact that a great deal has been written about play, there is actually very little research on the subject matter of the play function itself.

> That is, very little is known about what play accomplishes for human and animal organisms (Sutton-Smith, 1968, p.1965).

Why has the necessary documentation relative to the play function, not been done? After all, spontaneous play is a "universal" phenomena (Omwake, 1968).

Sutton-Smith (1968) suggested that the work ethic and the corresponding reasoning that "an activity has not been thought to be explained unless its direct value for the organism's survival could be indicated" (p.165). Secondly, Almy (1968) noted the "lack of mutual understanding of the nature and function of play in the cognitive life of the young child" and attributed this lack of understanding to lack of collaboration between professionals and disciplines due to a different definition of "play":

> Activity is kaleidoscopic . . . domestic themes merge with transportation themes as the husbands from the housekeeping corner become the truck drivers delivering cement . . . This is play. It represents "important learning" for the nursery educator. Her colleague is baffled . . . What he had in mind is quite different: equipment more obviously designed to teach specific concepts, teacher-directed games to stimulate language and thought. At this point collaboration often ceases. The

> nursery educator is horrified at her colleague's notion of "play". He is unconvinced of the validity of her notion of "learning" (Almy, 1968, p.355).

Why is free unstructured play justifiable in view of the obvious benefits possible through structured play? Does free play provide opportunity for fulfilling a different set of learning needs not possible through more structured play? Almy (1968) answered:

> To limit the play of the younger child solely to that structured by the adult would not only run counter to the child's typical way of life, but would be to deny him the important opportunities to initiate and test his own ideas and schemes in spontaneous play (p.367).

Athey (1974, p.43) noted that problem solving was at the top of Gagne's hierarchy of types of learning "implying that it calls upon the highest cognitive processes of which man is capable". Thus, Athey maintains that the implication for teachers was to provide challenges and conditions for children to become problem solvers in the manner of "Piaget's play as assimilation of reality":

> Provide the kinds of materials and situations on which the child can project his own problems and arrive at solutions consonant with his existing concepts . . . adults may provide verbal or physical

> solutions to the problem, but these are ineffectual if the child does not have the thought structures to assimilate these solutions into his general understanding. (Athey, 1974, p.44)

Free play provides the child the unique opportunity to be "master of his environment" (Athey, 1974, p.43). In such a setting he is able to project his own personally defined problems for resolution. The structures that adults use for problem solving are different than those adopted by the child:

> A child is able to grasp a problem, and to visualize the goal it sets, at an early stage of his development; because the tasks of understanding and communication are essentially similar for the child and the adult, the child develops functional equivalents of concepts at an extremely early age, but the forms of thought that he uses in dealing with tasks differ profoundly from the adult's in their composition, structure, and mode of operation. The main question about the process of concept formation - or about any goal directed activity is the question of the means by which the operation is accomplished . . . to explain the higher forms of human behavior, we must uncover the means by which man learns to organize and direct his behavior.(Vygotsky, 1962, p.56)

Obviously the free play setting provides an ideal location for a researcher to study the "means by which" the child "learns to organize and direct his behavior". Since the child's strategies for dealing with problems is so qualitatively different from that of the adult,research of this nature should be initiated in a setting in which he is "master of his environment" (Athey, 1974, p.43).

How does representative play so frequently seen in the socio-dramatic play of young children, extend problem solving? Play, in creating meaning, leads from activity to representation (Athey, 1974, p.34). For example Curry (1974) maintained:

> If you look closely at the development of role play at different ages, you can observe the process by which the child seeks out stimulation, integrates it into already existing structures, and transforms it into novel combinations which are then externalized in symbolic role play. (Curry, 1974, p.60)

Omwake (1968) added that the affective and cognitive elements of free play are "refined to become the problem-solving activities and concepts later associated with more formal learning experience.

> This refinement is achieved as the animate and inanimate objects in the environment assume a relatively constant meaning for the child and as he becomes able to use the symbolic communications and

> abstract ideas that are used to influence him and the conduct of those around him. (Omwake, 1968, p.44)

Review of the Research on Problem Solving and Play

A number of interesting studies have been undertaken to determine various aspects of the relationship between play and problem solving.

For example Corinne Hutt (1976, 202-213) was primarily interested in clarifying the characteristics of exploration as being separate from those of play. Thirty nursery school children between three and five years of age were introduced to a novel object (a box with a moveable lever, visible counters, and a bell and a buzzer). Four conditions were available (no sound or vision, vision only, sound only, and sound and vision). Subjects had six ten minute sessions in a familiar room where they found the novel object as well as five familiar toys. As the children entered the room they tended to inspect the novel object and then begin manipulating the lever. The amount of exploratory behavior was least for the condition of "no vision or sound", increased slightly for "vision only". However, under the conditions of "sound only" and "sound and vision" investigative time was increased. Hutt found that the children needed to explore the possibilities of the novel toy before they would begin playing with it.

Hutt was also able to differentiate between exploratory behavior and play.

> These behaviors (exploration and play) can be differentiated on a number of grounds. Investigative, inquisitive or specific exploration is directional, i.e. it is oriented towards certain environmental changes . . . The goal is 'getting to know the properties', and the particular responses of investigation are determined by the nature of the object.
>
> Play . . . only occurs in a known environment, and when the animal or child feels he knows the properties of the object in that environment; this is apparent in the gradual relaxation of mood, evidenced not only by changes in facial expression, but in a greater diversity and variability of activities. In play the emphasis changes from the question of 'what does this *object* do?' to 'what can *I* do with this object?' (Hutt, 1976, p.211)

Hutt continued her research on the nature of exploration in young children through a number of studies. She found that the children had tended to fall into three categories:

> non-explorers (N.E.) who looked at the new toy and even approached it but did not inspect or investigate it; explorers (E) who actively investigated the toy but thereafter did very little else with it; inventive explorers (I.E.) who, after investigating the

> toy, used it in many imaginative ways. (Hutt & Bhavnani, 1976, p.216)

Hutt & Bhavnani re-examined forty-eight of the original sample of 100 children when the children were between 7 and 10 years. Instruments used for testing the children included the Wallach and Kogan battery of creative tests, earlier ratings by Hutt on the amount of creative play, and parent and teacher questionnaires. They found that:

> The failure to explore in early childhood seemed to be related to lack of curiosity and adventure in boys and to difficulties in personality and social adjustment in girls. This interpretation is strengthened by the scores on the creativity tests: the N.E. boys scored considerably lower than the E. boys, but there was no difference between the performances of the N.E. and E. girls. Perhaps more important, a child's inventiveness and creativity in play were associated with his subsequent facility in divergent thinking. This association was greater and more direct in boys than in girls: that is, the more inventive the boy was in early childhood, the more divergent he was likely to be later on. (Hutt & Bhavnani, 1976, 218).

Sylva, Bruner and Genova (1976, 244 - 257) asked 180 middle class nursery school children to try to get a piece of chalk out of a box with a hook on it.

> The sticks and clamps were the only objects within the child's reach. The box was placed at a distance such that the longest stick would not reach it. The straightforward solution to the problem is, of course for the child to construct an elongated tool by rigidly joining two long sticks with a clamp. He needs such a tool to open the latch and rake the chalk towards him. (Sylva et al, 1976, 246 - 247)

The children were assigned to one of three treatment conditions: Play, in which the child observed an adult tighten a clamp onto a stick and then was allowed ten minutes of free play with sticks and clamps prior to the presentation of the problem; Observe Principle, in which the adult demonstrated tightening the clamp onto the stick and then proceeded to construct an elongated tool from the sticks with the clamps and No Treatment in which an adult simply demonstrated tightening with clamp onto the middle of one long stick. The children were found to use one of six different means to attempt to obtain the goal (i.e. get the chalk). The children who had engaged in free play with the sticks and clamps prior to the presentation of the problem were found to exhibit more goal-directed behavior.

In contrast, children in the control group chose

> means in an apparently random order. Both play and observation of the principle led children to approach the problem in an orderly (simple to complex) manner; play, however, produced more goal-directed behavior than observing the principle. (Sylva et al, 1976, 250 - 251)

Sylva et al then carried out a second experiment in which children were assigned to two treatment conditions:

> Observe Components: Adult and child sit at table and adult creates a 'puppet show' in which sticks and clamps become characters in a drama. Mr. Clamp and his brothers eat 'members of the Stick Family by clamping their 'jaws' around the 'waists' of the Sticks.
>
> Training on components: Training consists of demonstration, specific commands (e.g., 'Turn the handle the other way') and verbal encouragement (e.g. 'You're getting it tightened; don't give up'). (Sylva et al, 1976, 253)

Garvey (1976, pp.50 - 51) commented on the results of the above experiment:

> Surprisingly, watching the amusing dramatization and receiving training were both relatively ineffective. Sylva concluded that free handling was more effective because only then did the children initiate the solution themselves.

Possibly thinking of Hutt's discrimination between exploration and play (Hutt, 1976, pp.202-215), Garvey thoughtfully commented:

> But how do we know that the free handling was play? It could have been exploration or manipulation lacking any playful orientation to the objects. Sylva reexamined the behavior and success of those children who had the prior experience of handling the objects and found that a majority of them had actually played; they had engaged in some transformation of the materials, such as shaping a house . . . The "transformers" were the children whose problem-solving performances were most efficient and effective. Thus, although it is not correct to say that playing caused better problem solving, it is true that those children who displayed nonliteral or imaginative behavior prior to the task were the best problem solvers. (Garvey, 51, 1977)

Studies such as the above have suggested that play enhances problem solving. However, if the study of free play is to provide clues as to how young children process information more research is mandatory. As Almy (1968) noted, there is a "need to appraise the cognitive elements in spontaneous play" (p.356). It is no longer possible to assert that children "learn through their play", an assertion accompanied by an inability to describe the learning in any terms other than those having to do with emotional or social adjustment" (Almy, 1968, p.359).

However, research in a free play setting is difficult. As Frost (1968, p.182) so aptly stated, "what is stimulating to one child may be mere noise to another". This is no startling revelation, for the free play setting provides the child the opportunity to independently define his problems for resolution. Thus, there is a need to trace the activities of individual children operating in a free play setting.

CHAPTER 3

The Methodology of the Research

Influences Affecting the Choice of Methodology

Because young children are very reactive to an artificial setting, the researcher decided that the study would achieve greater validity if conducted in a natural setting. Secondly, an artificial setting could not possibly replicate the range of stimuli occurring in the natural environment.

Carew (1976, p.1), interested in observing signs of intelligence in young children, stated:

> Instead of bringing our child-subjects into a laboratory and asking them to perform tasks we deemed important, we went to their own homes and neighborhoods and observed month after month the ordinary experiences that they had with the familiar people, places, and things in their lives.

The richness of description and nature of the findings of Carew's study would not have been possible, had she not chosen to conduct the study in a natural setting.

The nature of the problem cited in Carew's study was similar to the problem cited in this research, in that both studies were concerned with the child's strategies to meet the problems occurring in his natural environment. Thus, conducting the study in a natural setting appeared to be the obvious choice.

Prior to finalizing the methodology for the naturalistic research, the following techniques were reviewed: ecological description (Brandt, 1972), ethnographic techniques (Spradley & McCurdy, 1972), specimen description (Brandt, 1972), anecdotal notes (Brandt, 1972), and methods of interviewing children.

What is naturalistic research?

> Naturalistic research refers to the "investigation of phenomena within and in relation to their naturally occurring contexts . . . intrinsic orders exist 'out there' and that these regularities will organize and drive events . . . naturalistic research is aimed at procuring data that will permit identification of these orders.(Brandt, 1972, p.7)

Naturalistic research supports the bases of behavioral science. "Without sufficient descriptive information, the wrong problems are selected for study, inappropriate hypotheses are tested, and erroneous inferences are made (Brandt, 1972, p.15). "Inconsistencies are frequently found between the results of laboratory experimentation and naturalistic investigation" (Brandt, 1972, p.16).

Brandt (1972, p.15) indicated the need for "purely descriptive details about man's behavioral patterns". He noted that the "behavioral sciences have barely begun to accumulate and classify such data" while "almost every other science is replete with catalogs and handbooks of facts about the phenomena it covers (for example the characteristics of thousands of plants, properties of metals . . . ") Clearly, the study of play requires such description.

> For data to have any meaning, therefore, at least three factors that structure a given observation must be taken into account: 1) the actual entity or process being observed; 2) the context in which the observation is made; and 3) the characteristics and purposes of the observer (Brandt, 1972, p.23).

The above three factors are vital considerations when one considers the "multiple cultural scene" of a given situation. Spradley and McCurdy provide a particularly fitting illustration of the dynamics involved in a "multiple cultural scene": Students were given a fifteen minute lavatory break. The girls had time to play and over the course of the year developed several games during the break such as "Snake", "Watertag", etc. The lavatory break had special meaning to the girls. "Their games had rules and participants shared a cultural scene that enabled them to play and interpret what was going on in the lavatory". However, from the teacher's standpoint:

> She sends her pupils out of class at an appropriate time, listens for noise . . . and punishes those who misbehave. Thus, the pupils and the teacher do not

> share the same cultural scene for while the teacher conceives of this as a lavatory break, "she does not divide the activity into seven different categories of games . . . Thus, a single social situation involves at least two different cultural scenes, each a partial mystery to those actors who do not hold it. (Spradley & McCurdy, 1972, p.28)

An understanding of "multiple cultural scene" is an important prerequisite for naturalistic research. For example by virtue of being an adult, a researcher interested in describing the lavatory scene from the girls' point of view, would have had to adopt ethnographic techniques to learn about this cultural scene.

"The ethnographer seeks to describe a culture using those criteria that his informants employ as they observe, interpret, and describe their own experiences" (Spradley & McCurdy, 1972, p.18). "It shifts the focus of research from the perspective of the ethnographer as an outsider to a discovery of the insider's point of view" (Spradley & McCurdy, 1972, p.9).

Because the researcher brings his or her cultural background to the setting, plans must be made to discover the "insider's point of view":

> Cultural knowledge is coded in complex systems of symbols. It involves the "definions of the situation" . . . that must be learned by each generation.

> Children in every society are taught to "see" the world in a particular way. They learn to recognize and identify some objects and to ignore others . . . although it is possible to discriminate among thousands of different colours most societies refer to only a few categories (Spradley & McCurdy, 1972, p.8).

Thus, the researcher as observer has been "taught to see the world in a particular way" and therefore the background of the researcher is of some concern when examining the data. At the same time the researcher is faced with the challenge of finding out how the concerned subjects are organizing and interpreting the setting:

> Through a long process of socialization, children learn to organize their perceptions, concepts, and behavior. They acquire the knowledge that members of their society have found useful in coping with their life situation . . . This theory is then used to organize their behavior, to anticipate the behavior of others and to make sense out of the world in which they live.(Spradley & McCurdy, 1972, p.9)

Barker (1951) in creating a specimen record of behavior, offered these suggestions on observational technique:

> On some occasions, inactivity and unresponsiveness make an observer stand out as a stationary figure

> against a moving ground. On other occasions activity and responsiveness have the reverse effect. A good field observer is one who has mastered the technique of being present but inconspicuous (Barker & Wright, 1951, p.6).

In a specimen record, one mode of naturalistic research, "behavior is described continuously over relatively brief time periods . . . whereas in anecdotal records, only certain episodes of behavior are selected from many more available over a much longer period" (Brandt, 1972, p.86)

Barker (1951) referred to direct observation as a useful tool for children younger than nine years when "self-consciousness and social sensitivity" are not great. The procedure adopted by Barker to produce the specimen record of One boy's day was as follows: A separate observer and listener team were present for each thirty minute observation period of the day. The observer carried a writing board with an attached watch to make brief notes. The observer dictated into a sound recorder. The "initial narrative was as spontaneous and full as the observer could make it" (p.8). A listener made notes expanding the narrative. The running account was then edited by the observer. The reports were formed to complete the record.

> For specimen description, a person is usually chosen, along with a time and particular place for

> observing him . . . from this point on, the observation and recording are continuous and deliberately atheoretical and unselective. A faithful record is made of 'everything' that happens in the behavior and situation of the child . . . whatever he does and says is noted, as well as whatever is done or said to him in turn (Brandt, 1972, p.86).

Anecdotal notes were used successfully by Navarra in The development of scientific concepts in a young child and by Piaget in The language and thought of the child. "The anecdote is a word description of a behavior episode. It is highly objective, containing only details that other observers would agree are true . . . can be classified, quantified, and organized to test a hypothesis" (Brandt, 1972, p.83).

Field notes may also be used for naturalistic research. Generalizations based on several "discrete though related observations" may be made "rather than separate descriptions of each." One possible flaw in using field notes is that "each observer, no matter how highly trained, has his own biases, which prevent him from seeing all that is going on" (Brandt, 1972, 88 - 89). The work of Freud and Darvin is cited by Brandt as examples of the successful use of field notes.

How is the researcher to cope with the data from naturalistic research once it has been gathered? Brandt

(1972, p.223) suggests recurring pattern summation. The child study is first carefully reviewed. Secondly, lists of all the recurring patterns are made to see "what behaviors are repeated (when and how often) and to present a condensed, yet still objective record of the child prior to making final interpretations". The behaviors are listed under headings and dated. Barker (1963) edited The stream of behavior which served as a good resource for naturalistic data analysis, although the researcher designed classification systems specific for this study (see Appendix G).

In adopting the methodology for this research, the researcher was also influenced by five months of training in taped and written specimen description.

The Design

Tod's free play was observed and documented from April 26th - May 20th, 1977 on twelve occasions. These observations were recorded in the form of specimen description, summary, and child interview. The objective was to produce as full a description of Tod's play as possible and hence all of the above techniques were used to meet this end, including the May 2nd account, when the researcher interacted with Tod and the children much as a "play tutor".

Written observations were used for the first two days of the study, after which a combination of taped and written observation, and snapshots were taken to capture the essence of the play.

The researcher wore a taperecorder which was on during the entire observation period. The recorder was sensitive enough to pick up much of Tod's interaction with others as well as the researcher's orally dictated observations. Occasionally when the researcher's presense would be too obtrusive, a recorder was planted near the children and simultaneous written observations were made a short distance away.

These written and taped observations were generally transcribed on the same day as they had been obtained.

A diary was also kept in which all subjective impressions about the study and inferences drawn from the data gathering (Appendix D) were recorded.

The transcriptions were handled in the following manner: Each observation was first analyzed to identify the place, function or explorative use, and the symbolic representation made of each toy and/or material used by the child (see Appendix E). Secondly, the researcher attempted to construct a list of the problems confronting Tod and his strategies for attempting to resolve those problems from the evidence contained in each observation (see Appendix F). The third step was to place the events of a specific observation along a time line (see Appendix H). This method proved helpful for discerning how and why a particular theme or direction in the play may have developed. Finally, after numerous readings of the transcriptions, many lists were compiled by means of recurring pattern summation.

The results of the above techniques were then summarized. These summaries provided the foundation for answering the proposed questions for the study.

The Setting

The day care centre used for the study is funded by the federal and provincial governments and is licensed to accommodate sixty children. The staff to child ratio was approximately one to six at the time of the study. All staff has had some form of post-secondary education in child care. They were referred to as "teachers" by the children.

During inclimate weather the children played at the centre. Tod's particular class had from fourteen to eighteen children each day, aged three to six. The subjective impression of the researcher was:

> I was deeply impressed by the abundance of space, numerous unstructured toys and materials, and well designed space utilization. For example there are movable walls containing pillow-stuffed holes (also used for child produced puppet shows), climbing appartus, and foam for jumping, as well as several places to hide away by oneself or with friends.

> The children are very enthusiastic and seem to enjoy the centre tremendously. The staff appear very dedicated and vitally interested in children. (Weekly Summary and Reflections April 25th - April 29th, 1977, Researcher's Diary)

The children generally played at the park during pleasant weather. The park had playground facilities (teeters, merry-go-round, large and small swings, large and small slide, monkeybars, Jungle Gym, large tires, cement tunnels, a large sand area), a large lawn area with gently sloping hills, and many flowering bushes and schrubs. There was also a wading pool area which, of course was closed at the time of the study.

The park was shared by a second child care centre. To accommodate the ninety children, the centres alternated use of different park areas. The researcher termed these areas Park #1 (see Appendix A) and Park #2 (see Appendix B).

A number of additional toys and materials were also brought to the park such as boats, bats, balls, skipping ropes, painting materials, books, etc.

Tod

Tod fulfilled three criteria which the researcher felt to be important to the success of the study:

1) Tod was thoroughly involved in his play.
2) The impressions of his teachers and the researcher was that Tod appeared to be a "normal" four

year old manifesting no obvious neurological, emotional, or physiological disturbance.

3. He took minimal notice of the data gathering techniques used by the researcher.

Tod was 4.4 years old at the commencement of the study. He attended the centre for approximately four months. He knew all of the children in his class. On the two occasions when the researcher observed Tod's arrival at the centre, he appeared happy to be there and eager to begin playing.

The Children's Reaction to the Data Gathering

An adult who talks to herself, scribbles notes, takes pictures, scratches diagrams, watches and talks with children but never directs was certainly a novel entity in the children's environment. Although the centre received many visitors, the children had never experienced the data gathering techniques used by the researcher. Obviously the children wanted to "make sense out of" this woman. Who was she? Why was she there? What was she doing? These were the basic questions which the children seemed to portray in their response to the researcher.

Written observations and rough diagrams comprised the first two days of the data gathering. The three and four year olds took minimal notice of the researcher, or rather made minimal attempts to question her about her procedures. However, the five year olds generally exhibited a lively interest in the researcher. She was greeted with a flood of inquiries: "Are you going to be our teacher?" "Can I have some paper, too?" "I want to do what you're doing."

The researcher had five months of previous training using the methodology employed in the study. Thus, she expected this response from the children and realized that if she were to "blend in" to the children's environment, that this process whereby the children "made their own sense of" the researcher was an important part of the success of the study. For example, the researcher recalled a previous experience during her five month training period when a group of graduate students had attempted to make running observations of kindergarten children's free play by recording these into a taperecorder. The children had felt the need to defend their kindergarten territory from these intruders whom they had not had the time to "make sense of". Thus one valiant lad hurled sand from the sand centre while the other children hissed "scat". This was a valuable lesson to the researcher in realistically planning the data gathering for her study. She determined to provide honest though casual answers to the children's questions. Taping was delayed until the third day of the study.

To the question, "what are you doing", the researcher used a reply she had heard another graduate student use successfully, "I'm writing down all the interesting things that you're doing, so I can tell other kids about it". Replies such as that satisfied many children but still left some puzzled. As one little boy asked the next day, "Are you still doing interesting things or can you come play with me?" One perceptive little boy asked, "How come you like to watch us play - don't you have work to do?" One little girl requested paper from the researcher and went about the playground gathering her own data, writing her own symbols and creating drawings of children at play.

When the taperecorder was introduced, the children did not immediately grasp that it was a taperecorder and made comments such as: "Hey, turn the radio on. I want to dance"; "Who are you talking to?" "Hey, talk louder, I can't hear you"; "Who are you talking about?": "Are you on the radio?" The researcher explained that she was carrying a taperecorder and that when she talked, the taperecorder would remember what she was saying. She went on to explain that the children all did such interesting things that she could not write everything down fast enough and so she used the taperecorder. Some children displayed interest as to how the taperecorder worked. The researcher demonstrated how and let a group of children hear their voices when she left the setting on several occasions until their interest was satiated.

When the camera was introduced, several children approached the researcher and requested that she take their pictures. Not wanting the children to feel that any one child's play was more interesting than any other child's play, she pretended to take several pictures. In fact one girl took the researcher on a tour of the centre, showing the researcher all of the many attractive pictures which had been taken of her play.

Initially, one teacher trying to "help" the researcher, suggested to a group of children that they not "bother the lady". The researcher explained to the teacher that she did not mind the children's questions. Thus, it was not unusual for children to curl up on the grass beside the researcher as she worked or to casually ruffle her hair as they walked by.

Within the first week the children seemed to have adapted to the tools used for data gathering. One indication to the researcher that the children had accepted her as a part of the play environment, but not sharing a teaching management responsibility was the fact that she was not approached by children with reports of their problems on the playground, in spite of often being in the vicinity of the problem.

The children did not seem to perceive that the focus of the researcher's interest was with Tod. This was possibly made feasible by the researcher's tending to move about and her presence at the centre, observing and interacting with other children during many hours of non-data collection time.

Lastly, the success of this research would not have been possible had it not been for the management skill of the teachers at the centre. Obviously, no responsible adult, conducting research or otherwise could stand idly by and observe a child undergoing potentially damaging experiences. The teachers intervened rapidly during such times and the researcher only used a directive action on two occasions with Tod when an immediate response was mandatory for his safety. Had the researcher exercised a managerial function, the gathering of such rich description of one child's play would not have been possible. Thus, the researcher was grateful to the personnel at the centre.

The importance of the children's acceptance of the data gathering methods cannot be overestimated, for had this not been so, the children's interactions with Tod would not have been typical, resulting in an atypical play sample.

Tod's Reaction to the Data Gathering

On Thursday, April 28th, 1977, I introduced collection of data via taping (endeavoring to capture Tod's conversation and my running observations on

> the playground). I had delayed introduction of this equipment until Tod had grown used to my being a part of the centre environment. Other than showing interest as to how the recorder worked (watching the tape turn), how it was turned on and off, and how it recorded, he manifested little concern re my use of it. (Weekly Summary & Reflections - April 25th - April 29th, 1977, Researcher's Diary)

Throughout the study Tod confirmed the researcher's initial "hunch" that the methodology employed for the study could not possibly compete for Tod's attention due to Tod's thorough engrossment in play activity:

> I was drawn to Tod in that he seemed so very involved in his play. Secondly, he seemed to enjoy talking about what he was doing, thus I felt that I could get data as to how he was processing his activities and information. He also did not seem to mind my presence as I recorded by observations. (Weekly Summary & Reflections - April 25th - April 29th, 1977, Researcher's Diary)

One major concern of the researcher was Tod's reaction to a taperecorder being placed in the vicinity of his play (in a constrained area when the researcher's presence would be too obtrusive, she planted her taperecorder and withdrew to another area to record written observations). During the researcher's training period in using this methodology, she had made the error of not giving the children sufficient time to "make sense of" the situation. The children had rejected the recorder's presence - "Sh! Don't say anything! She's trying to spy on us!" Tod, and his playmates, however, were given the opportunity to "make sense of" the data gathering methodology and showed little concern regarding the presence of the taperecorder. An example of the children's reaction was recorded in the May 11th summary:

> Doug became interested in the researcher's taperecorder which was close to the area in which the boys were playing. Doug asked the researcher to turn the taperecorder on and Tod told Doug that it was already on. He then bent over, watching the tape turn, and said, "Yup, it's on" (May 11th).

There was only one instance documented indicating possible negative observer influence:

> Tod stretches himself up to the top of the tire from the inside. There are alot of children crowding around the tire.
>
> Looking around Tod says softly to Doug, "Everybody trying to look at us. Come on! Let's get to zero!"
>
> Tod leaves the tire and Doug tells researcher as he leaves the tire, "We hid a potato in there!" (the stick). (Because of Tod's comment regarding

"everybody looking", researcher did not follow Tod closely for awhile) (May 12th).

Was Tod aware of the researcher's interest in him? He was indeed as demonstrated by the researcher's diary:

> Today when I said good-bye to the children Tod asked, "Ah! Aren't you coming to watch me eat my cinnamon bun!" (Researcher's Diary, May 16th)

How had Tod perceived the researcher? Had her presence distorted the play samples gathered? The answer to this question was clarified on May 16th, the second last day of data collection:

> Doug asks the researcher to help him up the rope once more. "I come sliding down! I did it! Doug squeals proudly. "Teacher! Teacher! Look!" squeals Doug, swinging on the rope.
>
> Tod, out of the hole, tells Doug, "She's not a teacher! She's just a different person!" referring to the researcher.
>
> "What am I, Tod?" asks the researcher.
>
> Tod doesn't answer. "She's a different teacher!" suggests Doug.
>
> "I don't know your name. I forget," Tod tells the researcher . . .
>
> "She's a different teacher, just Lynda. She's not a teacher, just Lynda," mutters Tod, climbing the rope ladder. "Up we go-oh, up we go-oh!" sings Tod. "Up we go, ladder! Up we go ladder!" (May 16th)

CHAPTER 4

Tod's Play

A first analysis of the data produced findings specific to describing the features characteristic of Tod's play. These findings are presented in this chapter. A second analysis of the data produced findings related to Tod's problem solving and the questions specifically posed for this study. Those findings are presented in Chapter 5.

Tod's Ego-Centric Nature

Tod's problem solving behavior appeared to be greatly influenced by his ego-centric perspective of his world. For example, a delighted Tod finding some windblown sand mounds exclaimed, "Hey! Someone made this for us!" (May 13th). Clearly, to four year old Tod, the cause-effect relationships of his world revolved around him.

The Sensory Nature of Tod's Play

Tod's approach to the problems his environment suggested, was a sensory one. The following April 26th, April 28th, and May 10th examples illustrate the multisensory nature of Tod's play. The May 10th example is especially interesting in that it documents the increasing complexity of the nature of his exploration.

On April 26th while exploring the wonder of sand, Tod truly seemed to be using his senses to understand the essence of sand. Kneeling in the sand he covered his knees with the deeper, "cooler" sand. Next he watched as the sand sifted through his fingers onto his knees. Slapping the sand on top of his knees, he flattened and patted it. Then, still kneeling he scooped the sand from between his legs. Picking up handfuls of sand, he allowed the sand to trickle into his hair. Next, he used the sand to cushion a balance experiment. Finding a container, he scraped it through the sand and created a sandpile. Next, he used the container as a scoop to increase the size of the sand pile. Finding a twig he pried holes in it. Finally, he buried the container in the sand so that only the edges were showing. Thus, Tod's play developed in complexity from sensory exploration of the sand, to covering and hiding his knees, to building a sand castle, to hiding the container he used as a scoop in the sand.

A second good example documenting Tod's approach to novel elements within his environment, occurred on April 28th when Tod discovered some spilled garbage in the outer proximity of the park. This discovery evoked a number of sensory experiments:

> Climbs over green fence where he has discovered some spilled garbage. Picks up a margarine container, pries lid off and sniffs it, flings it on the ground. (Seems fascinated by garbage, walking around it, squats down and looks at broken bag of garbage). Bends over, picking up eggshells, sniffs

eggshells and flings eggshell. As the eggshell lands, the other half of the eggshell has tumbled out of the first eggshell. Tramples over the top of the eggshells, stamps eggshells with feet, crumbling the shells. (April 28th).

The third example demonstrated the increasing complexity of Tod's experimentation with filling and emptying activities: On May 10th Tod, exercising his fine motor co-ordination, scooped up sand in the spout of one pop tin and tried to empty it into the spout of another pop tin. Repeatedly he tried to pour the sand back and forth from one pop tin to another. Next he used his auditory sense as he shook the sand in the pop tin vigorously, creating a noise. Requesting a shovel from Doug, and scraping the sand up, he tried to pour the sand from the shovel through the pop tin spout. Then he obtained two pails from the supply area and shook the sand from the pop tin into the pail, finally banging the sand from the pop tin into the pail.

Approximately one half hour later when Tod had used a hoe and skipping rope alternately as a fishing rod and a flying bird, he began a series of experiments with the sand and the hoe. Precariously lifting sand with the digger portion of the hoe, he persistently lifted and dumped sand into the little pail. Doug, watching Tod's rather clumsy efforts, offered Tod his shovel. Tod refused saying, "No, you gotta use this shovel" (referring to the hoe as a shovel).

Next Tod began frantically scraping sand from the interior of the tunnel and became most irrate as other children attempted to enter the tunnel. After obtaining the support of a teacher, he returned to the tunnel to again scrape the sand from the tunnel. Then, switching from scraping the sand with the hoe, Tod began using a popsicle stick for scraping. Next, he tried yet another variation, picking sand up with the hoe base and balancing it on the base; finally dumping the sand into the pail.

Next Tod instructed Doug to rub round and round through the sand to "clean the house". Another conflict occurred between Tod and his peers over the use of the tunnel. Later, Tod once more returned to loading the base of the hoe with sand and filling the pail. Finally, he attempted his most complex experimentation with the sand and the hoe. First he gripped the handle of the hoe with his teeth. Next he tried to load and lift the sand on to the hoe. Thus, the increasing complexity of Tod's operation upon his environment could be noted from Tod's initial attempt at simply loading and pouring sand from pop tin to pop tin, to pouring into a pail, to loading a pail with a shovel, to loading sand into a pail with a hoe, to scraping sand with the hoe (had some initial experience scraping sand into pop tin and scraping sand with sticks on other days) to lifting the hoe with his teeth and, finally to attempting to load and lift the sand onto the hoe. This May 10th example documented the increasing complexity of Tod's play as well as its sensory nature.

Tod's Use of Equipment

To the adult it is all too obvious. Swings are for swinging. The slide is for sliding. Skipping ropes are for skipping. And the hula hoop is of course, for doing the hula!

This was not so for Tod! In using the equipment, Tod very seldom engaged in the stereotyped activities associated with a particular piece of equipment. In fact, the typical function of equipment seemed to signal to Tod that it was time to change activities.

For example on April 26th and April 28th Tod spent a fair amount of time exploring the functions of a broken swing.

> A mother swinging her child nearby tells Tod: "Oh, no good! The swing is broken, no good! The swing is broken!"
>
> A child leaves a nearby swing and Tod leaps on. He asks the mother for a push. She gives him three small pushes. He surveys the playground as he swings. He tells the mother he wants to stop. She seems surprised that he wants to stop so soon (swung about a minute) and stops him. Tod drops to the sand

by the merry-go-round and cups his hands with sand. He begins drawing lines in the sand (April 26th).

Well then how did Tod prefer to use the swingset? Tod's favorite game seemed to be "going crooked" or twisting a friend on the swing. Receiving or giving an underpush was another delight. The swingpoles offered a challenge to climb and, when Tod failed at this task, then he repeatedly returned to twirling or pivoting his body around the swing bar (April 26th, 28th, May 20th). The hollows under the swings offered excellent territory for worm hunting after a rain (May 20th).

The slide became the scene of a cat-mouse game between the teachers, and Tod and the children. Tod had two favorite games negated by the teachers for safety principles: forming a train (waiting for enough children to gather at the top of the slide and all go down together) or blocking a child at the front of the slide as he slid off (April 26th and May 13th provide numerous examples):

> Giggling they ride down the slide train-style, all three of the children tumbling off on top of each other, giggling, laughing. Now five children, Doug in the lead scramble up the slide.
>
> "One at a time," calls the teacher . . . . "Now you go up . . . . Tod go down, please. Wait for Tod!"
>
> . . . Doug waits at the top of the slide and

> as Tod runs around the slide to climb it, Doug excitedly, hoarsely calls to Tod, "Come up! Come up!" (May 13th)

The above situation permitted Tod to experiment with velocity. The problems he may have been posing to himself could have been: "How does it feel to go down three at a time, train style?" "How fast do we go compared to when we slide down individually?" "How do we land?"

Tod may have also been experimenting with velocity when he presented this situation for himself:

> Tod is climbing the small slide, one shoe on - one shoe off . . . he releases the shoe from the top of the slide, and slides after it pushing it ahead of him with his feet (May 13th).

The problems which Tod may have posed to himself in this situation may have been: How does my shoe slide down the slide compared with me? Can I catch up with the shoe and capture it with my feet, pushing it down the slide?

Thus, the above two situations provided Tod with some preliminary experience with mass comparisons, velocity, and friction factors on an incline plane.

The slide was also used when Tod concluded that the worm would enjoy a slide ride and so sent it down the slide (May 20th).

Tod never used the skipping rope for skipping. However, it provided a tool for his socio-dramatic play in mountain climbing, shark fishing, cooking, and helped Tod draw together his hypothesis re water drainage and plugs. The rope also provided the basis for many manipulative activities: a tug-of-war, knot-tying, handle insertion, filling the handles with sand, and pulling the rope completely through the handles forcing the sand out in a syringe action. When the skipping rope was combined with a hoe it became a special landing gear for the shark and a bird which could fly (May 3rd and May 10th).

Similarly, Tod's use of the hula hoop was not to do the hula! Rather, he watched the hoop fly through the air and land; enveloped children with the hoop by using it as a larionette; pushed down on the hoop, forcing the circle into an oval (shape constancy exploration); and used the hoop as a supplementary tool to attract or repel the children while riding the merry-go-round. Thus, the hoop added a new dimension to the merry-go-round (April 28th).

The data abounded with numerous examples of Tod's exploration of the function of equipment. Tod's use of the swings, slide, skipping rope, and hula hoop were typical examples of his fresh, tireless search for the properties intrinsic to the equipment and molded to meet the themes emerging from his play.

Kinaesthetic Exploration and Movement

Tod appeared to be carrying out several experiments with motion. For example on April 28th he repeatedly jumped off the moving merry-go-round with numerous variations (frontwards and backwards) with varying landing positions:

> Tod repeatedly jumps off merry-go-round into sand beneath him. Merry-go-round gently spinning. Climbing out of the sand, Tod gives it a push. Leaps on, stands, jumps off into sand, lies down in sand. Leaps on, stands, jumps off, kneels in sand, rolls in sand. Climbs on merry-go-round, jumps off backwards, landing on back. In sand does cartwheel like motion. Balances on one hand and foot while other hand and foot are in the air. (April 28th)

The above is an example of movement repertoires (sequences of movement activities) combined with kinaesthetic experimentation which seemed to be typical of Tod's large motor play. Thus, in the above example Tod combined jumping (forwards and backwards), climbing, pushing, leaping, rolling, an approximation of a cartwheel and finally a balancing activity.

The slide permitted a variety of experiences with kinaesthetic exploration (motion exploration on an incline plane). For example a "one shoe on - one shoe off" Tod climbed the small slide on May 13th "he releases the shoe from the top of the slide, and slides after it pushing it ahead of him with his feet".

The gentle hill by the wading pool was of course, to roll down (i.e. April 26th). However by May 20th a giggling Tod explored the joy of rolling the "wrong way", up the hill:

> Tod and Doug repeatedly giggling roll down the gentle slope.
>
> Doug, lying on his tummy watches Tod as he reaches the bottom of the hill and begins to roll up the hill.
>
> "Ha ha!" giggles Doug, also trying to roll up the hill.
>
> The boys seem to be rolling on one giant circle. Periodically they look up, laughing at each other.
>
> "Hey, I'm rolling the wrong way!" announces Doug enthusiastically as he rolls steadily up the hill. (May 20th).

Another activity which characterized Tod's outdoor play was running, seemingly sometimes simply for the sheer joy of running:

> Tod races over to a playground water drain . . . . Tod races around the bushes . . . . Returning to the supply area, he picks up a ball and races around a pole with it. Races around by the bushes, continues running (when Tod greeted researcher he told her he

> liked to run 'cause he got good exercise). Doug tails him. Tod crawls into first cement tunnel, around to the back of the second cement tunnel and ducking down runs through tunnel.
>
> Doug continues tailing Tod. Tod calls back, "Doug let's go around!" (May 12th)

The data abounds with numerous examples of balancing, climbing, jumping, rolling, and twirling types of activities (see "Tod's Use of Equipment", "Exploring the World from a Different Point of View", "Tod's Up High Behavior", and "What is a Friend?" in Chapter 4 for many excellent examples).

Tod's Understanding of Representation in His Play

Tod demonstrated a thorough understanding of the use of objects to represent his ideas. For example on April 27th while playing with the interlocking geometric shapes, he informed the researcher that the triangular disc was the "hot wind that blowed the sign down."

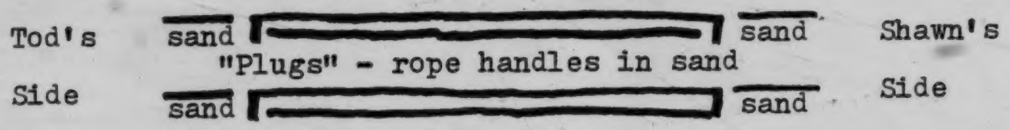
When Shawn asked to borrow the bat, Tod explained, "You can't. It's my horse." (May 13th). The researcher then tried to get Tod to expand on his rationale that the bat was a horse, hoping to receive information about Tod's understanding of representation:

> The researcher asked Tod what the ball was if the bat was his horse (in addition to straddling the bat, Tod also held a small ball). Tod answered that

the bat was not a horse when he played with the ball. Banging his bat on the ground he said, "See, now my bat's a drum. It beeps."

Additional information demonstrating the sophistication of Tod's understanding of use of objects was obtained by hearing Tod's explanation of the two parallel skipping ropes, the handles of which he had planted in the sand:

He positioned the skipping ropes as shown below:



Shawn rejoined Tod, and unable to hear and unable to understand the new direction of play, the researcher initiated the following conversation:

Researcher: "What are you doing Tod?"

Tod: "Well see here. These are the plugs for the water in the tire. When you pull out this plug (pointing to rope handle planted in sand) the water runs out here and if you pull out this one (pointing to alternate rope handle) the water runs out here. If you pulled out these (pointing to handles by Tod's end) all the water from Shawn's side would run down to my side and run out here".

Shawn interjected to say that there was no water in the tire but only sand. Tod stressed, "Yes, but if there were water!"

Rule Governed Behavior

Tod's play demonstrated the beginnings of rule governed behavior. For example there was a special way to address "George", the imaginary companion. There was a definite "round" or pattern in the rhetoric with George: ("George?" "What?" "George?" "What George?") (See May 6th).

Garvey (1977) refers to rule-bound conversations such as the above, as "rounds":

	Round type	First child	Second child	Turn content type
Round 1	R	Hi, Mommy.	Hi, Bubba.	$A\text{-}B_p$
Round 2	R_1	Hi, Mommy.	Hi, Babba.	$A\text{-}B_p$
Round 3	R_1	Hi, Mommy.	Hi, Bubba.	$A\text{-}B_p$

(Garvey, 1977, p. 115)

> Each person's contribution is called a "turn." This unit of behaviour appears to have psychological validity in the sense that, if one person fails to take his turn within the time provided by the rhythm of the ritual the partner will point out his failure: You go next or Your turn . . . The round also appears to have psychological validity as a unit since if a partner suggests Let's do that again or Want to do it again? a pair of turns (the whole round) is repeated.

> Features of timing also support the validity of these units. (Garvey, 1977, p. 114)

Tod and Doug never directly asked to "do it again" but rather used the cue "George?" with the accompanying growley intonation.

A second facet of rule governed play behavior occurred within the boundaries of some of the themes which Tod initiated for socio-dramatic play. For example:

> "We're supposed to clean the house!" Tod informs Doug. Doug doesn't answer but continues scraping. Tod repeats, "We're supposed to clean the house!" (May 10th).

One of the most specific examples of rule-governed play occurred on May 13th when the children were pretending to go to a picnic in a truck (the merry-go-round):

> Tod tells Doug to get off. "When I buy you popsicles you can get on!" explains Tod who is holding a popsicle stick.
>
> Doug gets off the merry-go-round. "Don't drive yet, George!"
>
> "O.K." agrees Tod. (pause) "O.K. here's a popsicle. You can get on now!" Tod tells Doug. (May 13th)

Speaking of the beginning of rules in the play of four-year olds, the Sutton Smiths noted that "children try to understand everything that is happening to them" and that "their rules are made on the basis of their own particular experiences and without adequate knowledge of all the issues involved." (Sutton-Smith, 1974, p. 126)

The examples cited above seemed to confirm the Sutton-Smiths' position.

Sharing of Toys and Materials

When a three year old was upset by the concept of sharing, "with finality and conviction, Tod leaned across the table and announced, "Yes, you have to share!" (April 27th).

However, although Tod had mastered the verbal formula relative to the 'rightness' of sharing, sharing of toys and materials was not always convenient for Tod. He developed a number of interesting strategies to justify not sharing.

One such strategy was the use of socio-dramatic play in an incident of aggression. When Doug began to drive the bus, Tod grabbed it stating, "Oh, that's my truck . . . You know it's mine!" Doug remained unconvinced, replying, "No! It's mine!"

> "No! My baby's in there! My baby's in there! My baby's in there! (getting louder all the time; Tod pauses) My baby's in there! See him! Right in there! Tod points to the interior of the bus which is empty. (As Tod argued that his 'baby was in there' he sounded close to tears during his last plea and

then almost as a last resort pointed out the exact location of the baby). (May 11th)

A second incident of aggression through the context of socio-dramatic play occurred on May 13th. Tod was seated on the merry-go-round with five buckets piled in the center. He used these buckets as a steering wheel as he drove the 'truck' to the 'picnic'. A child asked, "Can I have one of the buckets? I just need one!" Tod refused, stating: "No! Because we need them for our picnic!"

Thirdly, on May 10th, Tod was cleaning his 'house' (a cement tunnel) with a hoe, scraping the sand from the base of the tunnel:

> A group of children are playing at the other end of the tunnel with the sand. Serge tells Tod to leave the sand alone. Tod tells Serge to move, that he is cleaning his house. Serge replies, "I don't care!" "You don't care!" shrieks Tod, pushing Serge as he scrapes the sand. (May 10th)

The above incidents of aggression demonstrated Tod's competency in using the context of socio-dramatic play to manipulate his peers. He induced them to conform their use of toys and materials to personal, goal-directed play behavior.

On May 20th, Tod started to bury his worms in Jimmy's castle to which Jimmy objected. Promptly Tod asked Jimmy, "Oh, is this a worm house?" With the context which Tod supplied, Jimmy promptly agreed that it was a worm house, and so Tod was able to poke holes in Jimmy's castle, covering up the worms.

Tod used a second strategy on May 13th. However, on both occasions the strategy proved unsuccessful. Tod would deny a second object which he, Tod, thought the child would prefer, in order to procure an object which he preferred. For example, initially when Tod was missing his figurine, he made the noise of crying. A boy reprimanded him, "You don't have to cry about it!" Promptly Tod told the boy, "You can't have my shovel!" to which the boy simply replied, "I don't want it!" Tod used this same strategy later with Doug:

> "Give it back to me, O.K.?" pleads Tod asking for the yellow man figurine back from Doug. They tussle. Tod races to the small swings and yells, "I get this!" (one of the small swings).
>
> Doug declares, "I don't want it anyway!" (May 13th)

As the above examples illustrate, sharing was a very difficult concept for ego-centric Tod to handle.

What is a Friend?

The concept of friendship was a new one for Tod. However for five year old David and six year old Michael, friendship was the subject of many an ongoing discussion.

Thus, Tod received several incidental lessons on the subject from these children:

> Michael and David are spiking one of the pillows . . . They are talking about being friends.
>
> "I'll have a fight with you and I'm your friend!" offers David.
>
> "You gotta let me win 'cause I'm six!" stresses Michael.
>
> "Hey I'm six too! I'm six too!" yells Tod from the top of the climbing frame. (May 16th).

In the above example, Tod's comment illustrated his incidental involvement in the conversation, although he was occupied on the climbing frame. Values were expressed in the conversation between Michael and David. David presented a paradox: two contrasting concepts, a fight and a friend. Perhaps David had expressed the concept of playfighting. However, Michael reminds David of the status of age, and voices the value that winning the fight must be congruent with his being six. To not win poses a threat to Michael's self concept.

The special status of age was also illustrated on May 6th when David approached Tod and Doug who were already engaged in co-operative play:

> David starts building with the boys . . . .
>
> "Can I play because I'm older 'n you?" pleads David (who is already building with the boys).

"And you can come to my birthday!" promises Tod answering David's question. (May 6th).

David, in the above example expressed the value that age provided the status necessary to be included in the play of the younger boys. While not answering David's question directly, Tod inferred that a promise of an invitation to his birthday party ensued the bond of friendship. Thus, in Tod's mind a special significance was attached to the tradition of the birthday party. The party may have had significance not only because of the celebration, but also because increased age was consistent with increased social status at the centre.

To five year old David, the exploration of the concept of friendship was an important focus of his play while Tod was just beginning his exploration of the concept. This factor was particularly illustrated by the following two examples:

"Are you guys my buddies?" asks David following Tod and Doug.

"Yea, but we're looking around for the train tracks," replies a preoccupied Tod. (May 6th).

In the second example Tod and Christopher are playing at the same table:

Tod hooks several pieces of rectangular 'Lego' pieces together. "Are you my friend?" he asks Christopher.

Christopher, stacking cylinders replies, "Ah ha. Are you my friend, too?"

"I got some cars at home," observes Tod as Christopher picks up a car and drives it through the air over his cylindrical tower. (May 16th).

In the above example, Tod does not answer Christopher's question but rather mentioned that he had cars at home. This response was possibly prompted by Christopher's action (driving a car over the tower) and Tod's realization that Christopher enjoyed cars (reinforcers which Tod's house contained).

Interestingly, in both the May 6th example when Tod promised to invite David to his birthday and in the May 16th example, when Tod referred to the cars at his home, Tod linked the possibility of friendship with David and Christopher with his home. Again this would suggest a belief commonly stated by early childhood educators, namely that the child first finds security in knowing his family and home before setting out to explore ever-widening circles of school and community. Tod's desire to link friendship with these peers with his home setting, is an example of the young child's need to draw bonds between the ever-widening circumferences of his expanding world.

Three year old Doug was Tod's closest friend. It was Doug who commonly shared Tod's socio-dramatic play including an acquaintance with Tod's imaginary companion, George. Although Doug did not incessantly follow Tod's cues for socio-dramatic play (as when Doug failed to race to the firetruck - April 26th), the relationship as partners in socio-dramatic play was demonstrated by Tod's April 26th admonishment, "Hey Doug! Let's pretend!"

Doug was also instrumental in providing cues which extended the play:

> "OH NO! Oh no! Our supper's cold!" exclaims Tod peeking into the tunnel. "Our supper's cold, now!" (pause) "Oh our lunch is cold! Our lunch is cold!" repeats Tod as if very distressed.
>
> "Let's go see it!" suggests Doug, getting up and looking into the tunnel.
>
> "It's burned out!" confidently notes Tod at the tunnel entrance.
>
> "It's burnin'! It's burnin'!" shouts Doug.
>
> "No it isn't! Let's go see!" exclaims Tod, looking into the tunnel.
>
> "It's burnin'!" announces Doug with a piercing scream.
>
> "Yea! Yea!" mutters Tod as they both walk into the tunnel. (May 12th).

In the above example Doug not only extended the play by his cues but also changed the direction of the play. Doug, most likely does not have the experiential background to understand the relationship between Tod's reasoning that the "supper's cold" and "it's burned out" and so introduces, "it's burnin'". Tod at first denies this cue, perhaps cognitively finding it without rationale. However, Doug's continued cues draw Tod into Doug's theme.

Doug reinforced Tod's play by his imitation of the play:

> Tod races over to paint brushes and picks up a container out of the box and wears it on his head (cottage cheese container in art supplies). Doug does the same. The wind rises and Tod's "hat" blows off. Tod declares, "Ah, mine blow off!"
>
> Tod scoops dirt into the paint carton singing, "Ahrahrahrah! Hmmm Hmmm Hmmnnn!"
>
> Doug joins singing, "Hmmmnnn Hmmm!" but higher than Tod . . . .
>
> Filling his container with mud, he turns it upside down on the top of his head.
>
> "Hey!" shouts Doug gleefully imitating Tod (May 12th).

The above example illustrated Doug's meticulous imitation of Tod's actions, even to the tune he was humming!

Doug gleefully imitated many of the daily life activities simulated by Tod such as cooking, cleaning, and even defecation:

> Meanwhile Tod is supporting himself with his hands

on top of a large hole in the platform. He grunts, "Mmmm! Pl Pl!" He seems to be pretending it's a toilet.

"What are you pretending it is, Tod?" asks the researcher to confirm her hypothesis.

"I'm peein' in here!" announces Tod matter-of-factly continuing to grunt.

Doug does the same thing on the other side of the platform where there is a second hole (like an outdoor toilet). He's giggling and laughing. "I'm finished doing!" announces Doug.

"Oh, I'm going in the toilet! I'm going in the toilet!" moans Tod, lowering himself through the hole and into the chest under the platform.

"I'm going in the toilet! I'm going in the toilet!" echoes Doug, descending through his hole.

Tod starts rolling around, kicking as if he were swimming, kicking against the sides of the chest. He holds his face up, having a most disgusted look as he looks around at the walls of the chest.

"What's inside there, Tod?" asks the researcher peering through the hole.

"There's pee in there!" replies Tod miserably. "And there's pee all over!" Crawling out, Tod shakes his head, "What a mess!"

"Oh! Oh!" Tod calls as if startled. "I'm going in again! I'm going in again!" he calls lowering himself down through the hole. As he descends, he calls, "Help! Help! Help!"

Meanwhile Doug climbs out. (May 16th).

Doug shared Tod's socio-dramatic play of an event which seemed traumatic to him, falling in a toilet. Tod's exploration of the interior of the toilet was very real to him while Doug's play was simply a gleeful imitation. Tod discontinued the "toilet swimming" soon after Doug crawled out of the chest. Tod may have required the supportive presence of Doug in staging this play which seemed to be very real and traumatic to him.

Doug was a supportive, confident companion to Tod even when Tod faced defeat in meeting his goals. For example on May 11th Doug was confident that the abstract puzzle could be put together even after Tod showed him that it was "broke". Doug was also supportive when an upset Tod discovered that he could not climb the tires, a skill he normally mastered with ease. (Tod had just gotten new shoes which interfered with his climbing - May 12th).

Doug, being younger than Tod, was not as physically agile as Tod. Tod tended to measure his growth by Doug's achievement. This "competition" stimulated Tod's prowess and increased if not inflated his self confidence:

"He (Doug) can't slide down ro-ope!" taunts Tod. Brightening he asks, "Hey, are you scared?"

"Hey, I can do it backwards!" announces Tod dropping from the rope and doing a backwards roll. As he does it he cheers as if surprised, "I did it! I rolled backwards like this!" Tod repeats the roll.

"Tell you what to do!" announces Tod, rolling back, kicking his legs into the air . . .

"I can do that! Hey, I can do that!" announces Doug, watching Tod.

Doug practices. "Oww Oww!" screams Doug starting to cry. "My bum hurts! My bum hurts!" (May 16th).

In the above example, Tod had just learned to slide down the rope. Promptly he compared his newly learned skill to Doug, "He can't slide down ro-ope!" Mastery of this skill stimulated Tod's next challenge, a backward roll. Success at this skill motivated Tod to define his new ability through Doug's competence, thus he tried to "teach" Doug.

Doug shared the Tod-set challenge of climbing across the top of the climbing apparatus. Tod was actually apprehensive about the challenge ("Oh, look at these big holes!" - May 16th). As Doug successfully mastered the challenge and moved across the top towards Tod, Tod became crowded and used a series of strategies to maintain his prowess:

Tod lies down on top of the frame and watches Doug as he climbs cautiously towards him, across the top of the climbing frame.

"Climb down the ladder," Tod suggests to Doug. (Doug has crawled away from the side of the frame which has the ladder). "O.K. you got one more chance to go back!" warns Tod as Doug nearly reaches Tod.

Doug moves close to Tod, crowding Tod. Tod looks down (nervously). "Please go away!" asks Tod. "Please go a-way! Come-on! Your squishing me down!"

Doug moves still closer to Tod.

"A-CHOO!" screams Tod (trying to make Doug move back).

"Let's go back," suggests Doug, moving back.

"You can't even get down!" taunts Tod. (May 16th).

In the above example Tod projected his own fear of being crowded by Doug to Doug. He used four strategies to attempt to maintain his prowess while at the same time reducing the threat which Doug's advancement caused. Firstly, he simply requested that Doug climb down the ladder. Secondly, he phrased his request as a possible threat for Doug (O.K. you got one more chance to go back). This failed, and Tod was reduced to pleading (Please go a-way! Come-on! Your squishing me down!). Finally, in desperation Tod created a deafening noise, screaming A-CHOO! Once Doug did turn to go back, Tod promptly returned to his show of bravado, thus saving his face before the admiring, imitative Doug.

Doug counted his friends as joyfully as he counted his cars (I got three cars! I got three friends!). However, friendship to Tod meant exclusion. This factor led to a poignant triangle between Doug, Shawn, and Tod. On May 13th Tod and Doug were delightedly playing with some boats between two sand mounds which they had just located. Shawn tried to enter into the play, telling Tod that he wanted to walk on the sand mounds "very soft". Doug seemed to understand Shawn's intention to try to enter the play for Doug informed Shawn, "you can't play". However, Tod dismissed Shawn as "you don't have to break that . . . . hey, your wrecking this too". Later, Tod deeply involved in boat play looked up to find that Doug had gone and that Doug was in fact playing with Shawn:

> Stops humming. Looks over at merry-go-round. "Doug!" Tod cries, realizing that Doug is gone. Wildly he runs over and grabs Doug's boat which Wendy is playing with. "Doug! Doug!" screams Tod . . .
>
> He looks around the playground. "Doug! Doug! Hurry up," he calls motioning wildly. "Hurry up!" (Shawn is pushing Doug on the swing and Doug has his back to Tod).
>
> "Doug! Doug!" yells Tod.
>
> Wendy joins Tod, calling, "Doug, Doug!"
>
> "Get Doug!" Tod directs Wendy. "Cause he's gonna

loss his boat 'n my boat, too!"

Wendy runs over towards Doug and Tod remains by the boats, staring towards Doug.

"Doug! Doug! Tod wants you!" yells Wendy.

Doug doesn't turn around. He continues to swing, his back to Wendy and Tod.

Wendy returns to sit down by the merry-go-round.

Tod, carrying Doug's boat, leaving his boat walks towards the swings. He talks to Doug while Shawn pushes Doug.

"I'm your friend!" Tod yells.

"I'm your friend, too!" Shawn tells Doug.

"I'm your friend, too!" Tod tells Doug.

Doug stands up in front of the swing and says, "I got two friends." (May 13th)

At that point Tod and Doug went to a teacher who tried to explain to Tod that she liked all three of the boys and that the three could play together. She suggested that Tod and Doug fill a pail together and then all three of the children could play together as Shawn would have finished swinging.

No doubt Doug was not entirely at ease with the situation as he hastened to assure Shawn, "I'm still your friend" as soon as Shawn joined the boys. The children then mounted the merry-go-round which became a truck to take them to a picnic. Again there was conflict between

Doug and Tod, as Doug was eager to include many in his circle of friendship and Tod's working definition of friendship ensued exclusion:

> "Hey you have to get on the truck!" Doug tells Wendy who is playing in the sand beside the merry-go-round.
>
> Now seated in the center of the merry-go-round are Doug, Shawn and Tod who are surrounding the pail.
>
> "Now there are three truck drivers!" notes Doug happily.
>
> "Now there's no more truck drivers!" states Tod. "Wendy can't play!" declares Tod.
>
> There is a barrage of "yes" and "no" between Doug and Tod over Wendy's right to play.
>
> "Yesss!" confirms Wendy. "Cause Doug said that I can. Right Doug?"
>
> "I guess so!" agrees Tod (May 13th)

Tod was not prepared to share the honour of "truck driver" with the children. Doug had to temporarily leave the "truck" to gather pails for the picnic and Tod hastened to tell the children, "there's only one truck driver" in Doug's absence.

Later Shawn demonstrated that he was interested in winning Tod's friendship. A teacher gave Shawn a figurine, greatly treasured by the children. Promptly Shawn declared, "I want to give mine to Tod" (May 13th).

It will be recalled that on May 13th Tod sent Wendy to get Doug on the pretense that he would lose his boat. Ironically Wendy was the child who was playing with the boat. Similarly, on May 20th Tod tried to have Christopher fetch Doug who was playing with another child. Ironically the following situation occurred:

> Christopher and Tod continue to teeter, with Christopher continuing to hold Tod in the air.
>
> "I want to go on with someone else! Not you!" exclaims Tod in a real rage. Repeatedly he screams for Doug. Christopher, who was off the teeter starts to climb on and Tod screams, "Not you though! Go get Doug!"
>
> "He won't come!" answers Christopher.
>
> "O.K., you save this!" Tod requests Chris to save the teeter for Doug and himself.
>
> Christopher sits on the end of the teeter waiting.
>
> Tod races to Doug who continues digging in the sand.
>
> Tod returns to the teeter and seeing Chrisopher sitting on the end, pushes him saying, "Get off. Give Doug a ride!" Christopher remains sitting on the end . . . Tod stamps his foot into the sand, and screams at Christopher, "Get off! This is Doug's place!"
>
> Christopher gets off and Tod, sobbing quietly sits on the end of the teeter totter. Christopher

sits on the teeter just ahead but out of reach of Tod.

Tod rages, "No, I want Doug! Doug!"

A teacher intervenes. "Tod, Doug is busy with someone else, so you let Chris have a ride. O.K.?"

"No! I only want Doug!" (May 20th).

Reflecting on the demands for exclusive attention which Tod has placed on Doug, a number of factors should be noted. Firstly, Tod had attended the centre for only 4.5 months. As an only child, he had had limited experience in interacting with other children. The egocentric nature of the child would suggest that large groups are an artificial situation for his age group. Through time, Doug has gained Tod's confidence and he felt at ease in Doug's presence.

However, as comfortable as exclusive companionship with Doug might be, the May 13th and May 20th examples illustrated the dilemma facing Tod and Doug. Doug was interested in expanding his circle of friends, a factor which Tod viewed as inconsistent with their friendship. Meanwhile, other children, Shawn and Christopher for example, had developed an interest in Tod. Thus, Tod was faced with the realization that friendship as a concept could involve many individuals. Tod found this concept difficult to accept and would no doubt, require many more experiences before assimilating this concept into his personal social behavior.

Surprisingly in the few short months which Tod had attended the centre, he had already developed strategies designed to exclude others. For example on April 26th Tod was playing in the sand by himself when a child dropped down beside him. Although no words were exchanged, Tod smacked the sand out of the other child's hand and the child left.

Tod also proved to be adept at applying centre rules to create exclusion as illustrated from the following examples:

> Shawn enters and begins to play with Tod's materials. Emphatically, Tod stressed: "Shawn, there's only supposed to be two people!"
>
> Shawn continues to play with the materials and Tod calls out to teacher, "Shawn's playing with me. There's only supposed to be two people! (Doug is the second person).
>
> (Teacher suggests Shawn play in another area) (May 6th).

Generally Tod demonstrated interest in the general group on only one occasion, May 20th when the group was engaged in the caterpillar, worm, and spider hunts. Tod's treatment of three year old Wendy stood out in sharp contrast to his attempt to reach the group:

"Hey you guys! You guys!" yells Tod, beating with his pink bat on the ground.

Wendy, playing near Tod, asks, "What? What?"

Tod ignores Wendy. (May 20th).

Later, Tod tried to use group feeling against Wendy when she killed a caterpillar with whom Tod had established a personal, if one-sided relationship:

A caterpillar in a tire groove, sticks its body out towards Tod.

Tod giggles delightedly, squatting down to watch the caterpillar . . .

"Let's step on him!" suggests Wendy.

"No!" shrieks Tod.

As the caterpillar tumbles to the ground, Wendy steps on it.

"You stepped on him!" declares Tod with a sob-like gulp as he examines the squished caterpillar.

Racing over to a group of children, Tod yells, "Pam someone stepped on a caterpillar! Someone stepped on a caterpillar!"

"Hey, she stepped on it! Wendy stepped on it!" informs Tod, leading the way. (May 20th).

From the above examples it could be seen that Tod had very different ways of interacting with the older boys David and Michael; Doug, his best friend; Shawn who wanted to play with both Doug and Tod; and younger

Wendy, who, by playing in the proximity of Doug and Tod, had picked up a fair amount of information about their games.

May I Play?

As the study progressed one factor which became of real interest was the way in which Tod and his peers communicated the answer to the often unspoken question, "May I play?"

One particularly good example of Tod's nonverbally signalling, "go away", occurred when Tod was privately exploring the wonder of sand:

> Kneeling Tod digs in the sand near the merry-go-round. He swoops handfuls of the deeper "cooler" sand over his knees covering them. Picks up handful of sand and watches as it sifts through his fingers onto his knees. He slaps the sand on top of his knees flattening it. He pats it.
>
> Still kneeling Tod scoops out sand between his legs. Another child drops beside him. Tod picks up two handfuls of sand and holding it over his own head, he allows it to trickle into his hair. Smacks sand out of the other child's hand. Child leaves. (April 26th).

Exclusion from play was a painful concept for Tod and his peers to handle. One particularly poignant example occurred just after Tod had repeated his often used rendition of the centre rules about only two people being allowed to play. In this way Tod could play exclusively with Doug.

> Christopher, playing a few feet away is eager to join them and loudly announces, "Just to say I can't play, I'm not going to let you play with me!" (May 6th)

> Garvey (1977, p.51) noted that:

> Objects are the prime currency of social exchange for the toddler. Through the second year of life, showing, sharing, giving, retrieving, and appropriating are the most frequent bases for his voluntary interactions with adults and other children.

Though Tod and his peers could not be called "toddlers" object ownership and object characteristics seemed to serve as "currency for social exchange". For example, Tod's attempt to enter the play of David and Michael, boys older than himself, could be considered:

> Picking up a car, Tod kneels down by their structure, and advises David and Michael, "My car's bigger 'n yours." The boys continue playing, not acknowledging Tod's announcement. Tod, wheeling his green car in the driveway of their structure adds, "I got this one" (this car). . . . Picking up a handful of coloured cubes, he extends the sides of the driveway . . . . As Tod completes extending the

> driveway with the coloured cubes, he (proudly) tells David and Michael, "Look at your garage!" (May 6th, 1977)

In the above example Tod first tried to enter the boys' play by challenging that his car was bigger (discussion of object characteristic). Secondly he tried to contribute to the boys' structure (by extending the driveway into what Tod termed a "garage").

Occasionally an offer to enter co-operative play came in the direct, "May I play?":

> "Can I play?" asks Wendy sitting down beside him.
> "Yup!" answers Tod.
> "Can I play?" asks Doug.
> "Yes you can," replies Tod.

Brian and Shirley Sutton-Smith identified a number of strategies used by young children to enter co-operative play:

> Children vary greatly in the skills that they bring to getting into a group with other children. The most successful technique seems to be simply to engage in play that is relevant to what is going on. "Look, I'm a jet airplane." This seems to work better than "Can I play?" . . . Smiles, giggles, crying, stunts, ludicrous expressions, and mock attacks are among the equipment that children use. (Sutton-Smith, p. 141 - 142, 1974).

The data abound with examples of Tod and Doug giving each other socio-dramatic play cues or simply doing something playful as suggested by the Sutton-Smiths. There was only one documented instance of Tod using mock attack (See treatment of Larry on April 28th). There were two documented incidents (May 13th and May 20th) when Tod tried to bring Doug back to playing exclusively with him, when Doug had left to play with other children. On those occasions Tod first tried to call to Doug using possession of toys to try to lure Doug back (loss of boat - May 13th; chance to teeter - May 20th). Secondly, he tried to send a messenger to fetch Doug (sent Wendy - May 13th; tried to send Christopher - May 20th). His final strategy was to go to Doug and plead as on May 13th, "I'm your friend!"

"George", Tod and Doug's Imaginary Companion

"George" made his first appearance on May 6th in the observations and was to serve a variety of functions throughout the course of the study:

> Spreading the coloured cubes flat out along the extended driveway, Tod companionably tells Doug, "We like building houses."
>
> Making his voice deep and joining in to the play with the coloured cubes, Doug orders, "George give that back!"
>
> "Here George", answers Tod, his voice equally deep.

Doug begins driving a car around the piles of cubes.

"George, you got your engine back in heat?" asks Tod watching Doug, still with a deep intonation.

Doug growls back, "Yea, George!"

Tod piles up a tower of cubes and notes, "This is a space rocket!"

"George! George!" calls Doug.

"What? Just say one George", replies Tod.

"You guys got three cars", complains David taking one of the cars.

"George?"

"What?" answers Doug.

"No, you have to say 'what George?'" informs Tod. "George?" repeats Tod.

"George? George? George!" calls Doug.

"Don't say George!" orders Tod.

"George?" questions Doug.

"He's TIRED! George is tired!" replies Tod somewhat (irritated).

"George?" repeats Doug.

"George is tired! He's tired, I said!" retorts Tod (sounding highly irritated).

The boys continue building with the cubes and then Tod asks, "George?"

"George!" answers Doug (delighted).

David starts building with the boys.

"I saw a big bad wolf!" announces Doug seriously as he builds.

"I saw King Kong on the show!" returns Tod.

"Me too!" advises Doug.

Tod continues to tell the King Kong story in phrases about an airplane (researcher could not hear clearly).

"Can [illegible] play because I'm older 'n you?" pleads David (who is already building with the boys).

"And you can come to my birthday!" promises Tod answering David's question.

"George? George? George?" yells Doug in a very deep voice interrupting the conversation between David and Tod.

"Don't talk to George!" retorts Tod, then moments later backing his car up, Tod deepens his voice and announces, "O.K. I'm backing up! I'm bringing my car!" Referring to a closed wall on the other side of the structure, Tod informs Doug, "You'll have to go over there and open this garage!" (May 6th).

In the above example, Doug is given highly specific rules for talking to George, namely that when Tod says, "George?", Doug is to answer, "What George?" and that when asking for George it is necessary to only say

"George?" once.

These highly specific rules for interaction were discussed at length by Garvey:

> It is only possible to talk of rule governed behavior when one can predict what will be done next and can recognize an error in procedure . . . the children often explicitly, demonstrated awareness that their social play depended on mutually accepted rules of procedure. (Garvey, 1976, p. 577)

Later, on May 6th, Tod engaged in egocentric speech while playing with Doug, models the "George" routine:

> As the boys drive their cars along the track they commence calling each other "George" once more using their characteristic deep intonation. A segment of the conversation follows:
>
> Tod: George?
>
> Doug: What?
>
> Tod: You're in the wrong track!
>
> Doug: Yikes there's a WITCH!
>
> Tod: No, there's a witch on this one! (his track not on Doug's).
>
> Tod continues talking to himself in a low voice calling himself George and then answering his questions. (May 6th)

In the above example Doug demonstrated that he had mastered the "George? - What?" requirements. When Doug momentarily introduced the theme of the witch on his track, Tod egocentricly concluded that the witch was on his, not Doug's track. At that point he lapsed into egocentric speech with imaginary "George".

The next encounter in the observations occurred on May 11th:

> Doug carrying his jeep excitedly runs over to the table and gets the red car. "I got two cars!" squeals Doug. "You got longer one 'n I do!" notes Doug looking at Tod's car.
>
> "And I gotta bigger car!" states Tod.
>
> "And me, too!" stresses Doug.
>
> "And George?" asks Tod changing his intonation to make it deep.
>
> "What?" replies Doug and Tod in unison.
>
> "No!" replies Tod irritably. "This George!" (Both Tod and Doug have cars which have couples sitting in them. Tod points to the driver of his car as being "this George").
>
> Tod conducts the following solo conversation changing his intonation for both parts:
>
> "George?"
>
> "What?"
>
> "You bring me ah ticket?"
>
> "Uh, O.K.!"
>
> "Brrummm Rmmmm Brmmmmm . . " sounds Tod as he

pushes the car around. Doug joins him but then Doug's car is unable to pass because Tod's car blocks the road.

"Dis car not backing up!" squeals Doug sounding very surprised.

"George?" growls Tod in his deep George voice.

"What?" answers Tod as George.

"George?" repeats Tod.

"What?" answers Tod.

"George? George? My car not backing up?"

"No, that's mine!" stresses Tod. (Tod's car blocks the road of Doug's car). (May 11th)

In the above example their was conflict between Doug and Tod as Doug picked up the cue for the "George routine" and Tod wanted to do it entirely by himself:

"And George?" asks Tod changing his intonation to make it deep.

"What?" replies Doug and Tod in unison.

"No!" replies Tod irritably. "This George!"

Tod and Doug both had couples sitting in the cars that they operated and thus Tod refused to think of George as being in Doug's car. Thus, although sharing the George theme, Tod once more engaged in egocentric speech even when Doug attempted to co-operatively enter the play when Tod's car blocks Doug's.

Next, on May 13th while playing with the boats in the sand, Doug imitated Tod's "George routine" perhaps because of Tod's highly specific rules for talking to George and perhaps because he does not know how to enter into a co-operative play with Tod pretending to be George. The interference from Shawn, and Wendy's playing in the vicinity may have also interfered with the George theme developing as a co-operative endeavor:

> "George! Hey George! I'm stuck! I'm stuck! George I'm stuck!" yells Tod bringing his boat back towards the merry-go-round.
>
> "George, I'm stuck!" answers Doug.
>
> Shawn walks towards Tod, says he wants to walk on the sand mounds. (Distressed) Tod shouts at Shawn, "You don't have to break that!"
>
> "I got it George!" calls Doug moving his boat in.
>
> "I just want to walk on it (sand mounds) very soft!" Shawn tells Tod.
>
> "You can't play!" Doug tells Shawn.
>
> "Toot, toot, toot!" sounds Tod as he fills his boat with sand.
>
> "George!" repeats Doug. "George!"
>
> Wendy arrives and begins playing in the sand beside Tod and Doug.
>
> "Tooo -oooooooht!"
>
> "George? George?" calls Doug.

"George is not in my boat," explains Tod. "But the boat is driving. It is coming to George," says Tod as he drives the boat back again. "Toooot - tooooot - tooot!"

Well, my George is going to back up!" announces Doug, driving it backwards around beside Tod's boat.

"No!" wails Tod as Shawn blocks the path where Tod wanted to drive his boat. "Shawn," he says, "turn it to this one". Tod dumps sand in Shawn's hair. "Hey, your wrecking this too," wails Tod as he surveys a portion of the damaged sand mounds which Tod uses for boat docking.

"Well, you did it to me! Ha! Ha!" shouts Shawn.

"George!" calls Tod to Doug.

Time: 3:00.- Assistant intervenes to talk about the sand throwing between Tod and Shawn. (May 13th)

Interestingly, although Tod and Doug each played independently with their own "George", at the point of the assistant's intervention, Tod addresses Doug as "George".

Later that day, when Tod and Doug were on the merry-go-round pretending to go to a picnic, Doug addressed Tod as George (in the role of truck driver). The understanding amongst the children was that there were three truck drivers (Doug's announcement). However, as soon as

Doug was off the merry-go-round looking for more buckets for the picnic, Wendy intoned, "Come on! George!" She most probably was referring to Doug, and Tod was quick to clarify that their was only one truck driver, he, Tod. Thus, in this case rather than having independent "Georges", the boys were independent "Georges".

On May 16th Tod used his "George voice" to carry on a conversation between Joe (a rectangular lego piece) and himself. Joe, like the "tough, rough" boat or truck operator, "George", was the airplane starter and then the control tower receiver as Tod announced that his plane was going to blow up over the ocean (May 16th).

Finally on May 20th a growling Doug with two boats and his "George voice" initiated the George routine. Finally, the boys took a trip (or their independent Georges on their independent boats) up the pretend and real rivers.

Throughout all of the observations George remained independent to both Doug and Tod and yet shared a common characterization of a growley voiced vehicle operator.

Brian and Shirley Sutton-Smith (1974, p. 143) described the presence of the imaginary companion in the play of young children between the age of four and five in this way:

> The very great step forward in this year is the invention of the imaginary character . . . at age

four they become an imaginary person (a monster). these new imaginary companions let children extend themselves into all sorts of activities that are not a part of the usual run of events. They can consider both forbidden behavior and impossible behavior.

Manosevitz, Prentice, and Wilson (1973, 72 - 79) defined the criteria of the "imaginary companion":

> As defined by Svendson (1934) the imaginary companion is: an invisible character, named and referred to in conversation with other persons or played with directly over a period of time, at least several months, having an air of reality for the child by no apparent objective basis. This excludes that type of imaginative play in which an object is personified, or in which the child himself assumes the role of some person in his environment. (Manosevitz et al, 1973, p. 72).

Two hypotheses relative to the nature of "George" were formed. Firstly, could George be the stereotype of the gruff voiced adult vehicle operator whom the boys admired? The data abounds with examples of the boys stopping play to watch airplanes or trucks. Thus, the operators of such vehicles would naturally be heroes to the boys. Then, could "George" be a play role such as playing "nurse" or "Superman"?

Manosevitz et al noted that the imaginary companion could be "referred to in conversation with other persons". In the case of Tod and Doug, each boy could be "George", have a "George" (my George), or they could address each other as George. Thus, the second hypothesis of the researcher was that the boys were in a transition phase between parallel play (and egocentric speech) to the more social co-operative play.

Real and Pretend

To the adult observing little children engaged in socio-dramatic play, the question which naturally emerges is, "how aware are they of the boundaries between real and pretend?"

The pretend world was a subject of many an ongoing conversation at the day care centre. For example, on May 6th shortly after an irrate Tod had corrected Doug regarding the rules for talking to the imaginary companion, "George", the following conversation ensued:

> "I saw a big bad wolf!" announces Doug seriously as he builds.
>
> "I saw King Kong on the show!" returns Tod.
>
> "Me too!" advises Doug.
>
> Tod continues to tell the King Kong story in phrases about an airplane (researcher could not hear clearly). (May 6th)

Rutstein (1974, p. 50 - 51) maintained that little children have difficulty differentiating between real and pretend characters that they become associated with through television. For example he writes, "I remember asking one child, "Are Batman and Robin real or pretend?', and his shocked response, "Oh, no, they're really real!"

Certainly characters from television (ie. Superman, May 10th) became roles for socio-dramatic play. However, the researcher was puzzled as to Tod's actual discrimination between real and pretend. For example in the above May 6th observation as soon as Doug mentioned the big, bad wolf, Tod immediately presented a parallel fictional character, King Kong, though he provided the context in which King Kong appeared, namely, "I saw King Kong on the show!"

Unfortunately the May 6th data does not provide enough information to judge whether or not Tod was able to recognize King Kong as a fictional character. However, there are several excellent examples in the section, "Tod's Understanding of Representation in His Play", Chapter 4) which would suggest that Tod understood the representation aspect of the pretend context.

The data demonstrated that Tod and Doug shared an understanding of what constituted "real" and "pretend". Such a relationship had obviously developed even before the research began as confirmed by Tod's admonishment, "Hey Doug! Let's pretend!" (April 26th).

One of the more puzzling definitions of what constituted "real" and "pretend" emerged on May 20th:

(Tod spent some time searching for the worms then began playing boats with Doug).

"Hey George this is the river. This is the pretend river!" growls Tod driving his boat around the tracks from the vacant merry-go-round.

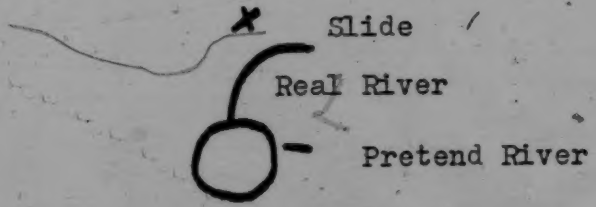
"George?"

"What?"

"Is your ship goin'?"

"Yea, Get a fish?" growls Tod. "Oh what a big wiver!" Oh now we're on the real river!" marvels Tod, steering his boat along a deep groove towards the slide.

(The teacher calls the children for snacks) 3:49



It would have been most interesting to have received further information from Tod as to the discrimination between real and pretend rivers.

Children's puzzling real and pretend categorizations were discussed by Garvey:

> The reality - play distinctions as made by the children themselves may be viewed as manipulations

> of categories and contexts, as explorations of the 'fit' of behaviors to changing definitions of situations . . . whatever the cognitive functions served by these explorations, the important point is that the distinction was often tested, even among the younger dyads. It appeared to be a relevant factor in the attitude or alignment taken, not only to objects, but to the behavior of the parther, whose definition of the situation is critical to the continuing interchange. (Garvey, 1976, 576 - 577).

Kohlberg, interested in the relationship between cognitive stages and implications for preschool education, engaged in a five-year research program designed to demonstrate that cognitive stages were "real structures to be found in development". He noted that if cognitive stages described by Piaget were in fact real, then the implication was that:

> Young children's responses represent not mere ignorance or error, but rather a spontaneous manner of thinking about the world that is qualitatively different from the way we adults think, and yet has a structure or logic of its own. (Kohlberg, 1968, p. 212)

Kohlberg administered tasks semi-longitudinally to children aged four to eight. Two of those tasks tested the child's orientation to reality:

> I asked children if they had had a bad dream and if they were frightened when they woke up from their bad dream. Susie, aged 4, told us she dreamt about a giant and answered, "Yes, I was scared, my tummy was shaking and I cried and told my mommy about the giant."
>
> Then I asked, "Was it a real giant or was it just pretend? Did the giant just seem to be there, or was it really there?" "It was really there but it left when I woke up. I saw its footprint on the floor."
>
> According to Piaget, Susie's response is not to be dismissed as the product of a wild imagination, but represents the young child's general failure to differentiate subjective from objective components of his experience. He calls this failure "realism". One aspect of realism is the confusion of thoughts with things, and of symbols with that which symbols stand for. Children between the ages of two and three often seem to react to pictures and toys of animals or objects as if they really were the animal they represent. On his third birthday, my eldest son was delighted by his bunny birthday cake until it was time to cut it, when he burst into tears at the bunny's destruction (Kohlberg, 1968, p. 213).

Kohlberg concluded that "the child's level of reality orientation corresponds to a general mental-cognitive structure rather than to momentary or situational wishes or fears" (1968, p. 222).

The May 6th and May 20th observations as well as the comments of Rutstein (1974, p. 50 - 51), Garvey (1976, p. 576 - 577), and Kohlberg (1968, p. 212) would suggest that possibly further research is needed in the real and pretend categorizations of little children.

Tod's Experimentation with Language

Many of Tod's free play experiences set the stage for his experimentation with his language.

The Orthogenetic Principle (Lerner, 1976, p. 116) indicates that development proceeds in the direction of "increasing differentiation, articulation, and hierarchic integration."

Closely related to the Orthogenetic Principle was Tod's attempt to use increasingly specific labels. The following examples illustrate how Tod was in fact increasing his specificity:

Tod: Sure! You need sand and dirt and grass and you have to mix it all together.

Cindy: Hey that's not dirt, that's dust! (referring to dust under maple pole)

Tod: (emphatically) It is not! It is DIRT!

Researcher: (To Cindy) How do you know it's dust?

Tod: Yea, how do you know?

Cindy: (throwing dirt from ground into the air) It's dust because when you drop it, it makes puffs of smoke.

Tod: (picking up some dirt from the ground and throwing it into the air) This is fuzz.

Researcher: How can you tell?

Tod: 'Cause it makes smoke when you drop it (April 26th).

In the above example Tod was provided with a more specific lable for 'dirt'. Tod's peer then provided a visual illustration and accompanying definition or verbal formula. Tod imitated the action of his peer, repeating the definition of 'dust' but defined the firt as 'fuzz'. Tod most likely possessed a generalization about 'fuzz' (i.e. fuzz comes from the ground) but was not aware of the critical details encompassing the concept. Does Tod know the meaning of dust? Perhaps. Tod, very likely did not wish to acknowledge the expertise of his companion and so selected what he felt to be an equally impressive label. However, Tod did imitate the action and repeated the definition. Thus, Tod may have actually assimilated the concept. Cindy provided Tod with the value that the use of a specific label was important.

The second example illustrates Tod's matter of reacting to a new label:

The children watch as the tow truck rumbles down the alley. "What kind of truck is that?" the older boy asks the researcher.

"A tow truck," replies the researcher.

"Yea, a tow truck!" repeats Tod confidently. "It's a tow truck, a tow truck." (May 13th).

While still watching the tow truck and immediately after hearing the label, Tod repeated the term three times.

The third example was particularly interesting in that it illustrated how Tod internalized or assimilated a new label in his environment:

Tod: Well, when you go climbing, you have a rope tied around you and you throw the rope up and then you can climb up on things.

Researcher: So you're going mountain climbing!

Tod scampered off to the large tire area . . . finally, scaling the "mountain", he called to the near-by children, "Hey, I'm a mountain climber! I'm a mountain climber!" The children took no notice and Tod called to the researcher, "I'm a mountain climber! See this is my mountain" as he patted the tire. "And you use these for climbing," he added importantly tugging at the rope tied about his waist. (May 3rd).

In the above example, seeing that Tod possessed the concept of "mountain climbing" but not the label, the researcher provided Tod with this new label. After climbing the "mountain", Tod was eager to share his new term with the surrounding children and so eagerly called out his new status: "Hey, I'm a mountain climber!" His statement regarding the function of the rope and the tire as representative of the mountain, demonstrated Tod's understanding of the concept, "mountain climber".

Surprisingly, the next date that Tod used the concept of mountain climbing was not until May 16th, thirteen days after he had initially been given the label "mountain climbing"! How had Tod assimilated the label?

> Tod watches Doug struggling to climb the rope. From the platform Tod observes, "He wants to do mountain climbin' like me! Right Doug? . . .
>
> As the researcher helps Doug climb the rope, Tod calls out, "I could be a climb mountainer!" (May 16th)

The May 16th mountain climbing experience confirmed Tod's grasp of the concept in that the theme occurred in a different setting, thirteen days later. Interestingly, although he used the term "mountain climber" correctly initially, he transposed the position of the words, producing "climb mountainer". One possible explanation for this transposition could be Tod's dominant concern with the act of climbing the rope, thus, he may have used "climb" in the initial position.

A second area of interest was Tod's adaptation of another child's play with language. For example, approximately fifteen minutes after David announced that he was taking off his "socky fockies", Tod called out, "Doug's wearing his socky walkies" (May 16th). Thus, in this example Tod imitated David's rhyme but adapted the second term to indicate a function.

There were numerous examples of egocentric speech used in socio-dramatic play. These speeches provided Tod with the opportunity to practice a variety of rhetorics and a variety of points-of-view. However, with the exception of Tod's speech with "Joe" an imaginary character, all of the other speeches occur in the company of Doug, Tod's closest friend. In each of the following basically egocentric speeches, Tod's questioning pattern was basically the same. As he flexibly switched from character to character, he acquired a distinctly different and suitable intonation:

In the first example Tod is playing with a family set of wooden puzzles:

> He takes the boy and woman out, standing the woman up beside the little boy. Softly he's talking, providing conversation between the man and the little boy. He puts the little boy in the slot for the

woman. The man and woman remain upright. The following conversation takes place, Tod providing a different intonation for each character, the intonation being exaggerated and unlike Tod's natural voice:

Boy: Mommy . . Mommy . . (whining)

Mom: What?

Boy: Daddy . . Daddy . . (pause) Daddy . . Daddy (whining)

Dad: What?

Boy: I want tah drink of milk.

Enter Doug who has been watching Tod's play with the family puzzles:

Doug: Why don't you ask the mommy?

Boy: Mommy, Mommy . . .

Mom: What?

Boy: I want tah drink of milk!

Mom: O.K.

Boy: Thank-you! (May 11th)

In this first example even with Doug's additional suggestion, the play basically went no further than the boy's calling the parent and the parent's reply, "What?" Finally the mother simply fulfilled the boy's request.

The importance of this particular questioning pattern to Tod is alluded to when Tod provided Doug with the rules for talking to George:

"George! George!" calls Doug.

"What? Just say one George", replies Tod . . .

"George?"

"What?" answers Doug.

"No, you have to say 'what George?'" informs Tod.

George?" repeats Tod.

"George? George? George!" calls Doug.

"Don't say George!" orders Tod.

"George?" questions Tod.

"He's TIRED! George is tired!" replies Tod somewhat (irritated).

"George?" repeats Doug.

"George is tired! He's tired, I said!" retorts Tod (sounding highly irritated). (May 6th).

How Play With Language Enhanced Tod's Play

Garvey (1977, p. 59) noted that the child's play with language was an intrinsic part of the young child's play:

> The use of newly required resources for playful exploitation is most striking in children's play with language. Almost all the levels of organization of language (phonology, grammar, meaning) and most phenomena of speech and talking, such as expressive noises, variation in timing and intensity, the distribution of talk between participants, the objectives of speech (what we try to accomplish by speaking) are potential resources for play.

Tod's play with language took several forms. He generally accompanied his play with humming, making the sound of his activity (eg. Brrrr Brrr for the sound of the truck, etc), or by describing the nature of his activity ("Up we go ladder!"). Garvey (1977, pp. 61 - 62) interpreted this type of activity as "play with noises and sounds".

Secondly, through egocentric speech with his imaginary companion, "George" and once with imaginary "Joe" as well as through other episodes of socio-dramatic play, Tod seemed to be practicing a round with followed this basic pattern:

Example One:

(In this example Tod provided conversation for a wooden family set).

Boy: Mommy, Mommy . . . (whining)

Mom: What?

Boy: Daddy .. Daddy .. (pause) Daddy Daddy (whining)

Dad: (What? (May 11th)

Example Two:

(George is an imaginary companion)

"George! George!" calls Doug.

"What? Just say one George", replies Tod . . .

"George?"

"What?" answers Doug.

"No, you have to say, 'what George?'" informs Tod (May 6th).

Tod also joined in group play with language. For example, on May 11th while Shelley was painting raindrops she initiated, "It's raining, it's pouring, it's hailing . . . " Tod then initiated, "It's raining, it's snowing." Next Tod changed the form of the round with, "Old MacDonald ate a banana!" Shawn delightedly revised, "Yea, ate a banana, fall down and broke his penis." Another child playfully added "Humpty Dumpty sat on a wall, down came his pyjamas!"

Garvey referred to the above type of round as "play with fantasy and nonsense" and cited the following example:

> A girl pretended to write a letter with real paper and pencil. She produced the following poetic nonsense - which must have been her own unique creation and which was heartily appreciated by her partner:

Girl (4:9)	Girl (4:7)
(on the car, writing a letter)	(listening and drumming on stove)
1) Dear Uncle Poop, I would like you to give me a roasted meatball, some chicken pox . . .	
2) and some tools. Signed . . .	
3) Mrs. Fingernail. (smiles and looks up at partner)	
	(4) Toop poop. (laughs)

(4) Toop poop. (laughs) Hey,
are you Mrs. Fingernail?

(5) Yes, I'm Mrs. Fingernail. (in grand,
dignified voice)

(6) Poop, Mrs. Fingernail.
(giggles)
(Garvey, 1977, pp. 71 - 72)

Garvey (1977, p. 72) maintained that play with fantasy and nonsense was related to the child's awareness between truth and nonsense as well as factors having to do with conversational usage.

Tod also demonstrated evidence of attempting to use increasingly specific labels (Orthogenetic Principle -- Lerner, 1976, p. 116). To acquire increasingly specific labels he tended to imitate his peers usage and repeat new words several times (see "Tod's Experimentation With Language", Chapter 4). There was also evidence that some of his labels were in the form of transition between a general, global label and a more specific label. For example, when he first discovered a caterpillar, "I found a real worm!" While calling the caterpillar a worm, he also had the label caterpillar as demonstrated by this statement which he used after announcing the discovery of the "real worm": "He's a caterpillar. I'm gonna stick mine on a tree." Trying to coax the caterpillar down from the tree he called, "Come on

Wormy! Come on Wormy!" Later, returning to the tree to try to coax the caterpillar down once more he called, "Come on Cat! Come on Cat!" (see "Making Sense of the World of Insects", Chapter 4).

Tod's socio-dramatic play allowed him to practice a variety of roles. Generally he chose important persons in his environment (eg. character of Mother). The dominant theme chosen by Tod was cooking. A second source for the roles Tod took was from the pretend world, possibly literature or television influenced. Tod also adapted his intonation to meet the role requirement (eg. a rough, tough voice for "George" and a whiney, thin voice for "baby").

Tod's language also demonstrated an interest in rhyming. His humming occasionally had rhyming elements. A good example occurred on May 16th when Tod adapted David's "socky fockies" to "socky walkies". Interestingly this rhyme of Tod's occurred approximately 15 minutes after David's use of "socky fockies". When Tod adapted the rhyme he also indicated a function, socks being used in walking. Garvey (1977) also found spontaneous rhyming and word play as characteristic elements of the play of young children.

Thus, data from this study and the supporting literature (Garvey, 1977) seemed to suggest that language was an important focus for Tod in enhancing his play.

Exploring the World From a Different Point of View

Tod exhibited many behaviors which were classified as "exploring the physical appearance of the world from a different viewpoint" (ie. hanging upside down). To illustrate this phenomenon the following example could be considered:

> Tod rests his body over the teeter totter bar and balances on his tummy as a central pivot. His head is down towards the sand. He lowers his head down, balancing on it as he looks around the playground from this topsy-turvy position.
>
> Tod continues balancing on his head which is tucked in the sand. Twisting forward, he does a frontward roll over the bar into the sand. He sits up scratching his eyes. Repeats the roll from the opposite direction over the teeter totter (May 20th).

One of the most fascinating incidents which perhaps provided some clues as to the way that Tod was processing the information he received from his upside down position occurred May 12th:

> Now, lying down on his tummy, Tod peaks down into the tunnel. Doug lies down on his tummy, edging his body up the end of the tunnel and peaking into the other side of the tunnel at Tod who is peaking in from the other end.
>
> Tod and Doug both look at each other from opposite ends of the tunnel, looking through the tunnel at each other. They laugh and giggle, periodically raising their bodies to look and laugh at each other from on top of the tunnel. (Doug is thoroughly enjoying himself, calling over to Tod through the tunnel).
>
> Giggling the boys call back and forth, "Hey Tod! Hey Doug - Tod - Doug!" through the tunnel.
>
> Tod sits up and tells Doug, "Hey pretend you go there and I go there and see if you can see? (Tod and Doug shift their bodies over to opposite sides of the concrete structure, referring to the sides of the tunnel. (Of course they can't see through).
>
> Tod and Doug return to looking at each other through the tunnel.

"Hey, go like this!" suggests Tod putting his foot over the edge so that it hangs down inside the tunnel.

"And you leaves your foot down!" cautions Tod. Tod, lying on his tummy leans forward peaking into the tunnel. "Ayow!" shouts Tod gleefully, looking through the tunnel at the foot.

Doug giggles, continuing to hang his foot over the edge.

"Hey, you look down and you see my foots!" Tod tells Doug. Tod holds his feet down the other side of the tunnel.

Doug giggles.

Lying on his tummy, dropping and lowering his feet, Tod tells Doug, "O.K., look down!" The game continues for about a minute, with Tod alternately raising and lowering his feet).

The question which naturally emerged from examining this type of data included firstly, why did Tod hang upside down, in other words what was he trying to perceive or learn from the experience? Secondly, why was viewing each other's heads and then feet so interesting to the boys? The conclusions which were reached admittedly subjectively included the belief that Tod was seeking a type of advanced object permanence (a slide is still a slide whether viewed from the topsy turvy world of "upside down" or in normal standing position). The second hypothesis was that viewing only the partner's head or foot was stimulating in that it permitted the boys to explore the part-whole relationship of the body.

Kohlberg (1968, p. 221) discussed the growth of object permanence in the young child:

> By 18 months he knows objects permanently exist though he cannot see them, but it is not until he is about six years old that he views their physical dimensions and identity as unchangeable. Things that change in appearance change in reality.

If, as Kohlberg maintains, the child is unable to recognize that physical dimensions and identity are unchangeable until the child is six years old, then perhaps the child grasps knowledge as to the nature of physical dimensions through experiences in viewing objects from upside-down or in viewing only parts of a whole object. Such an explanation would explain the delight that Tod and Doug took in viewing each other's feet from an upside-down perspective. Evidently, Tod had some idea of how interesting it would be for Doug to have that particular experience when he suggested, "Hey, you look down and you see my foots!"

Tod's "Up High" Behavior

Whether "up high" on a tire, climbing frame or cement tunnel, Tod's self concept was noticeably inflated with his increase in elevation.

This was particularly well illustrated on May 16th when Tod and Doug were crawling across the top of the climbing frame. There, Tod described his impressions of the glories of being "up high":

> Tod groans as he hauls himself across the frame, following after Doug on his tummy. "We're up here in the skies aren't we? And I can reach the light-lights!" boasts Tod reaching toward the light. "Right?"
>
> "No I can't!" admits Doug (touch the lights).
>
> "And I'm big!" boasts Tod.
>
> "And I'm not!" admits Doug.
>
> "And I'm really big!" boasts Tod. "And I'm up in the sky-y!" (May 16th).

(Incidently, Doug's response to being "up high" in the above illustration, was related to Tod's strategies to unnerve Doug, as Doug successively moved across the climbing frame and crowded Tod).

Similarly on May 12th being "up high" on top of the cement tunnel, influenced Tod's self image and his corresponding treatment of his peers "lower down":

> The teacher lifts Tod up on top of the tunnel. Grinning, Tod calls down to Doug, "Doug, I'm bigger than you!" . . . . Tod stands on top of the tunnel, looking down.

A girl tells the researcher that "he can't get up", referring to a very young child who wants to sit on top of the tunnel.

"Ahhh! He can't get up!" croons Tod with (mock concern). (May 12th).

Once more a euphoric Tod proclaimed the glories of being "up high" on May 20th:

Sitting on top of the tire, Tod sprinkles sand into the water, watching it as it splashes the water. He shakes the water out of his boat, standing up on top of the tire. Singing to himself, "Ha ha! Way up high! Ha ha . . . " as he balances, walking around the top of the tire.

Being "up high" also affected the themes which emerged in Tod's socio-dramatic play:

Tod is seated on top of the tire with four other children.

"Superman!" calls Tod spreading his arms expansively. He is seated with his feet dangling over the edge of the tire.

"Superman!" calls Doug seated on top of the other tire. He imitates Tod's spreading of his arms.

"Superman!" Tod and Doug call back and forth to each other always accompanying "Superman" with the expansive spreading of the arms gesture.

(May 10th).

The top of the tire also became associated with "shark fishing" (May 10th) and "mountain climbing" (May 3rd). Similarly, ascending the rope on the climber frame became associated with "climber mountain" (May 16th).

By way of informal observation, the other children at the centre seemed to share Tod's belief that increased esteem was consonant with being "up high":

> A little girl still on top of the tire calls down to Doug, "I'm the King of the castle. You're the dirty rascal!" A game of King of the Castle starts between Doug and the girl.
>
> "We know that!" interrupts Tod referring to the King of the Castle verse, (May 10th).

Reflecting on Tod's conviction that being "up high" was consonant with being bigger (eg. When Tod is on top of the cement tunnel (May 12th), he calls down to Doug, "Doug, I'm bigger than you!"), and the common early childhood game of "King of the Castle", it was hypothesized that this phenomenon could in fact be due to the young child's difficulty in understanding the principles for measuring height. Tod was not conserving height, forgetting that the height of whatever he was standing upon, was not in fact an extension of himself.

Secondly, it was difficult to know if by stating that he, Tod was "really big" (May 16th), Tod was referring to physical "bigness" or simply to feeling very positive about himself due to his new status of being "up high".

The Time Dimension:

Through Tod's play, he found many opportunities to experiment with the dimension of time.

Tod's conversation expressed his awareness of the sequence of events. For example, referring to the caterpillars, he tells Christopher, "Hey, Serge found one and then I found one!" (May 20th).

Tod also tried to introduce a parallel treatment of time into his socio-dramatic play:

Doug and Tod eating hotdogs.

Doug: I beat you Tod (finished his hotdog).

Tod: (still eating) No, you have to eat longer.

Doug: I beat you Tod.

Tod: No, you didn't! You have to eat it longer.

In the above example, Tod tried to prolong the eating of the hotdogs. He had the experiential background to know that hotdogs took time to eat, that they could not be eaten instantaneously as Doug had inferred. Tod, may also have used the need to eat longer as a rationalization to meet Doug's competitive challenge, "I beat you Tod!"

In the following example the Researcher interacted with the children in the capacity of play tutor. She introduced an experience with which Tod had had little experience:

Researcher: Thanks Tod. Have you got a stick?

Tod: (starts to take a long twig from the "fire").

Researcher: (touching wiener stick, hand withdraws and shakes as if burned). Oh! That's hot! I'll maybe let it cool abit, O.K.?

Doug: (giggling)

Tod: (touching stick gingerly). Yup, let it cool; yea, it's cool. (May 2nd)

Tod was not familiar with the time required to cool a solid (how long it takes sticks to cool which have been pried from the fire) thus, he inferred that it was an instantaneous process ("Yup, let it cool; yea, it's cool).

The following example also illustrated Tod's desire to use the time dimension from the "real" world as he attempted to re-enact a sequence of events with which he was familiar:

Shawn, climbing on top of the cement tunnel, leaned his head into the tunnel and echoed loudly, "Hello in there!"

Tod, still intent on inserting the handles, asked, "Do you want to come for supper? I'm cooking supper."

Shawn slid off the tunnel and proclaimed loudly, "I'm hungry! What's for supper?"

At the same time a second little girl entered from the other side of the cement tunnel and called, "I'm hungry! What's for supper?"

Tod continued manipulating the skipping rope handles and called out angrily, "It's not ready yet! I'm cooking! It's not ready yet!"

Seeming to enjoy the echo, Shawn and the girl, repeatedly cried, "We want supper, we want supper, we want supper!"

"It's not ready yet! I'm still cooking!" raged Tod crawling over Shawn and out the tunnel (May 3rd).

In the above example, Tod's insistence on maintaining the sequence of events and the "correct" length of time for cooking supper was very important to him. He became irrate when Shawn took the cue "do you want to come for supper" not as an invitation for a future time, but rather as an immediate invitation. When the girl and Shawn insistently chanted, "we want supper", Tod does not alter his insistence that "it's not ready yet" but rigidly adhered to this position. He did not understand that

Shawn and the girl do not understand the direction of his play and so Tod became increasingly upset, finally leaving the tunnel for another area. Thus, it can be appreciated how important the portrayal of events of present and future time were to Tod.

Tod's play with two cars at the water fountain was most interesting in that he introduced a crisis as a part of a sequence of events. The crisis was dependent upon the concept of time running out:

> Tod: Oh no! This car got stuck! (the car is directly under the flow of water).
>
> Researcher: Where did it get stuck?
>
> Tod: On the water fountain!
>
> Researcher: Oh no!
>
> Tod: And then the water stopped! (turns the fountain off and then starts the fountain once more; both cars are near the water flow).
> Hey! See it's coming right up! It's coming right up! (covering up the drain with his hand) Oh no! It's coming right up! (the water rises higher in the fountain basin, about half way up the car).
> Oh get away from the water fountain!
> I can't! I'm stuck! (May 11th).

In the above example, Tod's use of language created suspense as he experimented with the drama of the possibility of a submerged car; he manipulated the events like a narrator, indicating the passage of time (i.e. "And then the water stopped! Oh get away from the water fountain!").

A second example of Tod's play portraying a race against time occurred when Tod had Doug "do the work", pounding with a stick in the sand:

> "Hurry, before our lunch get cold!" shouts Tod pounding with the flat of his hand and the point of a stick.
>
> "Fast! Fast! Fast! Fast! Fast!" shouts Doug pounding his stick furiously into the ground in time to shouting "fast!"
>
> "OH NO! Oh no! Our supper's cold!" exclaims Tod peeking into the tunnel. "Our supper's cold, now!" (pause) "Oh our lunch is cold! Our lunch is cold!" repeats Tod as if very distressed. (May 12th).

Tod also demonstrated a concern for the time dimension while "cooking" on May 2nd (i.e. "While the fish were cooking, a little boy showed Tod his 'fishing rod' and said it was a gun. Tod momentarily played guns and then returned to cooking his fish, checking it in the oven to see if it was ready").

In planning a sequence of events, Tod's play reflected a concern with detail as of May 13th when Tod had Doug gather all the pails on the playground while he, Tod, remained on the truck (the merry-go-round). Tod was to drive the truck to the picnic. However, before the truck could start, Tod outlined a number of details. For example, the pails were to be piled and used as the steering wheel and then used for the picnic.

The data from the study abounds with examples of Tod's use of the present and the beginning of his attempts to reflect the future. However, Tod's conversation and play reflected minimal use of the past.

Who Am I?

The facilities at Tod's day care centre permitted him to explore this question in a number of different ways.

One such time occurred after the teacher had painted Tod's face:

> As the teacher completes his face, Tod screws up his eyes and face, and puckers up his mouth. As she announces that she is finished painting, Tod leaps up and dances around a table.
>
> The teacher returns with the mirror. Grinning Tod observes himself in the mirror. Then lifting

up his bangs he gazes at the total effect. The teacher hangs the mirror on the wall and intently Tod admires himself. He opens his mouth and shows his teeth and then begins to talk to himself. Catching sight of the researcher in the mirror, he turns to grin at her. Then returning to the mirror, he shows his teeth once more.

He dances back to pick up his train tracks. Stopping to chat with Chris, he strokes his face . . . . A girl tells them "All the kids should have on Indian hats because we're going to eat on the ground!" Tod gives his instructions to the teacher who is making Indian hats for the children. She follows his directions. Once his Indian hat is on, he shrieks, "Pow wowwow" and "pow wows" up to several children dancing and laughing . . . The teachers announce that it is time to clean up. Tod ignores this, joining Tonia; they pow wow around the table. A teacher reminds Tonia to help tidy but Tod dances into the other room. (May 6th)

With the teacher's thoughtful provision of the mirror, Tod was supported in his quest to get to know this new Tod with the painted flower face. Thus, he showed his teeth, lifted his bangs and began to talk to himself. Interestingly, both the addition of the paint and the Indian hat evoked dancing as Tod elated, expressed his feelings about himself.

The other areas in which Tod seemed to be exploring different facets of the question, "Who am I?" appeared in instances of being "up high", as well as through the context of socio-dramatic play. (See "Up High Behavior"; "Sharing of Toys and Materials"; "Real and Pretend"; "George, Tod and Doug's Imaginary Companion"; "Tod's Up High Behavior"; "The Time Dimension"; and "Making Sense of the World of Insects" in Chapter 4 for many excellent examples of Tod's socio-dramatic play).

In conclusion socio-dramatic play, changes in space location (eg. "up high") and dress-up permitted Tod to explore a number of roles. Such experiences may be important to the development of self-concept.

Making Sense of the World of Insects

Tod's visits to the Park during spring provided numerous opportunities for studying the emergence of insect life, a subject which was fascinating to four year old Tod.

Searching for Worms

Tod was an astute observer of insects. No matter how intrigued he was with his ongoing activities, he always had time to pause to investigate a spider, a ladybug, a bumblebee, a worm, or a caterpillar.

Tod's interpretation of insect activities was shaped by his egocentric perspective. By May 20th, Tod had overcome his initial reluctance to handle worms and had in fact developed a warm, personal relationship with these creatures. For example as Tod transferred the worms to a second boat he crooned, "I'm sorry, I have tah put you in the other boat! I'm sorry!" As he set the worm in the boat, he observed the worm closely noting, "Hey, I thought I saw him stick his tongue out!" He built the worms a worm house and sent a worm down the slide for a slide ride. When the worm crawled off the twig on to his hand, Tod explained, "Look, it's sitting on me!" Finally, Tod repeatedly kissed the worm (May 20th). When Tod viewed the caterpillar swaying in midair with the breeze, he ignored the fact that the caterpillar was hanging from a web or the little girl's information that "caterpillars have webs". Rather, he interpreted the action in terms of his own experience, and so ran through the playground proclaiming, "Caterpillar's flying, caterpillar's flying! Did you ever see a caterpillar flying?" (May 20th).

Tod received several incidental pieces of information about insects from the children and adults. For example, when Tod discovered the caterpillar he was told:

> You gotta book, you can read 'em and he turns into a butterfly! . . Hey, you can take him on the monkey bars . . . Put him on the tree! Come on! He'll eat leaves! . . Caterpillars have webs (May 20th).

The adults interpreted the actions of the children differently than Tod. Their comments portrayed values along with information. For example when the children and Tod were hanging worms on the conifer, a teacher intervened stating, "We are not killing worms. Worms are good. Leave the worms alone!" A second teacher interpreted the relationship between Tod and the worm this way: "Tod, I'm sure the worm doesn't want to be drug all over! Leave the worm alone!" (May 20th).

An example of Tod's method of reasoning and use of the incidental information received relative to insects follows:

> Jenny applied baby lotion to her skin and told the children that her "sun tan lotion" would keep the bees away. Tod, riding his horse, a pink bat, interjected saying that the suntan lotion smelled sweet and bees like sweet things like honey. An argument ensued amongst the children as they sniffed Jenny's skin and tried to decide if the lotion smelled like honey. Tod pointed out that bees are in the bushes and the flowers in the bushes did not smell like honey. Another boy added that the bees used the flowers to make honey. (May 3rd)

In the above example, Tod posed the problem: Will Jenny's 'suntan lotion' keep the bees away? Tod drew an analogy, noting that the lotion smelled like honey. Secondly, Tod used deductive reasoning, noting that since bees liked honey, they may therefore like lotion. Thirdly, Tod raised contradictory evidence, bees like flowers (blossoms) and these do not smell like honey. An exterior explanation was supplied by a peer who stated that bees used flowers to make honey.

Although Tod's conclusion was not provided, the above example demonstrated that Tod questioned what he heard (Jenny's statement) in conjunction with his hypothesis (bees like honey), drew an analogy between Jenny's statement and his reasoning, and questioned his hypothesis by introducing contradictory evidence. Tod's assimilation of the boy's reasoning was not given.

Examining the worm once it had stretched out.

Tod used his senses to explore the properties of the insects. He patted the underside of the caterpillar, sniffed the worm, observed that the worm felt wet, rolled the worm around with his fingers, and examined the worm once it had stretched out. Tod introduced a number of obstacles to the worm and observed the worm's reaction to these. For example he carried the worm on a twig on which he had placed saliva; he observed it crawl on to his hand, he sent the worm down the slide; he watched the actions of the worm when placed over the bar of the teeter totters, he checked the worms' positions after they have been placed in the worm house, and he lifted the sods where the worms had been found and replaced earlier. Similarly, he presented the caterpillar with a sand chunk and rock to crawl over, a stick to crawl along, and finally he observed the movements of the caterpillar when placed on the large tire.

Tod used numbers to describe the quantity of worms:

> Tod finds the worm, covered with sand. Close beside it is a second worm. "Another worm! Now we got three worms!" . . . "Hey now I got four worms!" he remarks incredulously to himself, looking at the worms in his hands (one of the worms split in two). (May 20th).

Thus, using the actions of the worms, Tod explored the additive function of numeration.

Tod's generalization about the caterpillar seemed to be that it was a type of worm. When he discovered the caterpillar he called, "I found a real worm!" However, Tod had the lable "caterpillar" as well as some knowledge of the caterpillar as shown by his next statement, "He's a caterpillar. I'm gonna stick mine on a tree!" Tod, trying to coax a caterpillar down from a tree called, "Come on, Wormy! Come on Wormy!" Later, returning to try to coax the caterpillar down once more, Tod called, "Come on Cat! Come on Cat!"

Tod's use of the labels "Wormy" and "Cat" and simultaneous use of "real worm" and "caterpillar" illustrates Werner's Orthogenetic Principle which states: "whenever development occurs it proceeds from a state of relative globality and lack of differentiation to a state of increasing differentiation, articulation, and hierarchic integration" (Lerner, 1976, p. 116). Tod seemed to be in a transition phase between the more global label, "worm" and the more differentiated, articulated, and hierarchic label, "caterpillar".

Tod formed a general hypothesis re the location of worms and caterpillars. Throughout the May 20th Observation, the collected observation demonstrated Tod's repetitive search of wet areas on the playground (under the sods, trees, and large tire area).

Through the worms and caterpillars, Tod also experienced the concept of death. Finding the worms under the swing he observed: "This worm got died!" When Wendy stepped on his caterpillar, Tod declared, "You stepped on him!" with a soblike gulp and then set out to inform the other children of Wendy's deed (May 20th).

The Cumulative Nature of Tod's Play and Problem Solving

To the casual observer of a group of children at play, play direction, emerging themes, and behavior appear random. One of the goals of naturalistic research is to identify order within human behavior. In the case of this study one goal was to identify order within Tod's play behavior. Brandt (1972) explained:

> Naturalistic research refers to the investigation of phenomena within and in relation to their naturally occurring contexts . . . intrinsic orders exist 'out there' and that these regularities will organize and drive events . . . naturalistic research is aimed at procuring data that will permit identification of these orders. (Brandt, 1972, p. 7)

By means of recurring summation (Brandt, 1972, p. 233 and by placing events on a time line (Appendix H) it became possible to trace the development of an emerging theme and to understand changes in play direction.

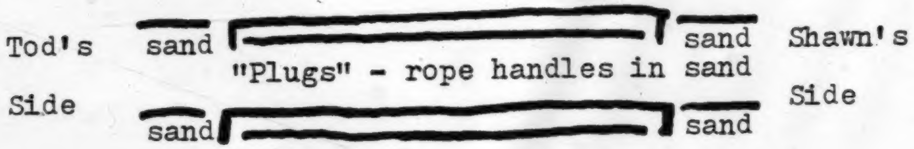
After the events of a day's data gathering were placed on a time line, the next step was to note the elements which had combined to produce a theme. Finally data was reviewed from other observation days to discover patterns within the play.

The following examples and accompanying Appendix H demonstrate that Tod's play did indeed have a cumulative element.

Example One:

Four year old Tod was fascinated by the subject of water drainage. Although he formed his hypothesis with regard to water drainage on May 3rd, he had had previous experience with water experimentation on April 28th. Further experimentation was carried out on May 11th.:

Still dragging the two skipping ropes, Tod crawled inside a tire, at the bottom of which was sand. He filled and emptied the alternate handles of the skipping rope. Then, filling one of the handles with sand, he pushed the rope out of the handle, pumping it like a syringe, and spraying the sand from the top of the handles. Next he half emptied the handle of sand and then continued filling it by sprinkling sand in it with his fingers. Then he drew the rope completely through the skipping rope handle, forcing the sand from the handle and causing the first handle of the rope to meet the handle on the other side. By this time Shawn had crawled in the tire and Tod showed him his discovery. Shawn, using the second rope, imitated Tod's actions. Outside the tire, a birthday celebration was in progress (sand pail with sticks for the cake). Shawn stuck his head out the tire to sing "Happy Birthday." From the other side of the tire about four feet away from the tire opening, the researcher continued to observe Tod who took no notice of the celebration. He positioned the skipping ropes as shown below:



Shawn rejoined Tod, and unable to hear and unable to understand the new direction of play, the researcher initiated the following conversation:

Researcher: What are you doing Tod?

Tod: Well see here. These are the plugs for the water in the tire. When you pull out this plus (pointing to rope handle planted in sand) the water runs out here and if you pull out this one (pointing to alternate rope handle) the water runs out here. If you pulled out these (pointing to handles by Tod's end) all the water from Shawn's side would run down to my side and run out here!.

Shawn interjected to say that there was no water in the tire but only sand. Tod stressed, "Yea, but if there were water!" (May 3rd).

How had Tod formulated his hypothesis re drainage of water from the bottom of the tire? Interestingly, on April 28th Tod had done some previous experimentation with water at the bottom of tire:

> There's water from the rain left in the tire. Inside the tire, he's discovered an Orange Maid container and picks it up holding it with right hand. He picks up water from the deep edge of the inside of the tire and pours in down to the shallow edge of the tire. It runs down a gentle incline plane in the tire back to the deep end. Fills container

and flings it at the dry sides of the inner tire and watches as it runs down the slope. He continues filling and flinging at the alternate dry areas. (April 28th)

Tod conducted further research with drainage on May 11th with the researcher found him playing in the water fountain. At that time he explained that his two toy cars were stuck on the water fountain:

Tod: Oh no! This car got stuck! (The car is directly under the flow of water).

Researcher: Where did it get stuck?

Tod: On the water fountain!

Researcher: Oh no!

Tod: And then the water stopped! (turns the fountain off and then starts the fountain once more; both cars are near the water flow).

Hey! See it's coming right up! It's coming right up! (covering up the drain with his hand).

Oh no! It's coming right up! (The water rises in the fountain basin, about half way up the car).

Oh get away from the water fountain!

I can't! I'm stuck!

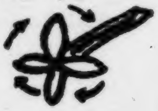
George?

What? (Teacher Intervention -10:35) (May 11th).

In the above example Tod experimented with water accumulation, water flow, drainage and blocked drainage through the context of his socio-dramatic play. Had the teacher intervention not occurred at that particular time, it would have been so interesting to have seen the outcome of the drainage experiment.

Water fountains were especially interesting to Tod. His generalization for a lawn sprinkler was to call it a "water fountain".

On April 27th he constructed a most interesting water fountain from interlocking geometric shapes:

> Setting his flower aside, Tod began assembling a fountain. He explained that as the ellipses spun, water was released (. . "when the fountain turns it makes water").
>
> 
>
> - Pipe for rain
>
> After giving this explanation, he added a "pipe for water to come out to rain for the grass". (April 27th)

Interestingly on May 11th Tod painted a water fountain which was structurally rather similar to his construction on April 27th. His explanation of the water fountain was similar to the explanation of the water fountain which he had given the researcher on April 27th;

"Tod explains his water fountain to Shawn: "It's going around and it's going to rain!," (May 11th).

Another interesting example of the cumulative nature of Tod's play was the mountain climbing theme. By examining Appendix H, the time line shows a range of factors which contributed to the mountain climbing theme on May 3rd. Interestingly, the mountain climbing theme did not arise again until May 16th in the data, thirteen days after Tod had initially been engaged in "mountain climbing" (See "Tod's Experimentation With Language" for a fuller discussion of this example).

CHAPTER 5

Findings, Conclusions, and Implications

Findings

Tod's Problem Solving

This study attempted to describe and define the nature of Tod's information processing (problem solving strategies) while he was engaged in free play at his day care centre.

Holt (1967) interested in the strategies that young children employ to make sense of novel elements* within the environment observed:

> A trained scientist wants to cut all irrelevant data out of his experiment. He is asking nature a question, and he wants to cut down the noise, the static, the random information, to a minimum, so that he can hear the answer. But a child doesn't work that way. He is used to getting his answer out of the noise. He has, after all, grown up in a strange world where everything is noise, where he can only understand and make sense of a tiny part of what he experiences. His way of attacking the cello problem is to produce the maximum amount of data possible, to do as many things as he can, to use his hands and the bow in as many ways as possible. Then as he goes along, he begins to notice regularities

*The novel element cited in the above example was a cello

> and patterns. He begins to ask questions - that is, to make deliberate experiments. But it is vital to note that until he has a great deal of data, he had no idea what questions to ask, or what questions there are to be asked. (Holt, 1967, pp. 48 - 49).

How did four year old Tod perceive or make sense of the many varied elements within his day care centre environment? Did he generate his data in the manner suggested by Holt?

Before considering these questions it would be well to return once more to the premise upon which this study was based. (At this point the reader may want to review the exploratory premise in Chapter 1).

Important to the premise, was the relationship between the potential stimuli inherent within the environment and the resultant problem solving behavior. The findings relevant to this relationship are discussed separately as "The Nature of Tod's Day Care Centre Environment" and as answers to the "Related Research Questions".

The Nature of Tod's Day Care Centre Environment

Certainly Tod's free play environment at his day care centre was replete with much exciting stimuli. The spacious, colourful interior of the centre abounded with numerous unstructured toys and materials upon which

Tod could project his own problems. There were private places - places to hide away by oneself or to share with friends. There were opportunities to climb "way up high", "up in the skies" and deep dark places as in the interior of the climbing chest. There was foam for jumping and room for dancing. There was paint for having one's face painted or for making raindrops. Truly, the interior facilities of Tod's day car centre abounded with stimuli interesting to the young child.

On pleasant days the children explored the park and playgrounds near their day care centre. Being spring, the park area abounded with trees and bushes in blossom not to mention the emerging insect life. The sandy playground area had a wide range of equipment, namely: slides, swings, a merry-go-round, cement tunnels, large tires, etc. A cart from the day care centre transported balls, hoops, ropes, shovels, pails, books, paints, etc. which the children used to supplement their play.

By attending the day care centre, Tod was exposed to many people, individuals who no doubt influenced Tod's perception of his environment. The staff to student ratio was one to six. Thus, Tod was exposed to several adults. While Tod's class was limited to eighteen children, in the two combined areas of the park there could be as many as ninety children. Tod had the opportunity to interact with children aged three to six. His constant companion and best friend was Doug who was willing to join him for "mountain climbing" or even "toilet swimming".

Certainly Tod's day care environment was most stimulating, abounding with many elements fascinating to a four year old. To return to the premise, how did Tod perceive or make sense of the stimuli he received from his day care centre environment? Did his free play in that environment permit him the opportunity to experiment in his own laboratory? If so, in what areas did he conduct his experiments?

Questions such as these naturally raise the first question, which this study attempted to answer, "what types of problems and hence goals, does the child set for himself during free play?"

Related Research Questions

1. What types of problems and hence goals, does the child set for himself during free play?

Tod appeared to be grappling with nine basic types of problems, each of which related to different areas of development. Each problem type was greatly influenced by Tod's egocentric perspective and Werner's Orthogenetic Principle which states that "whenever development occurs it proceeds from a state of relative globality and lack of differentiation to a state of increasing differentiation, articulation, and hierarchic integration" (Lerner, 1976, p. 116).

The relationships of these nine problem types is illustrated by Figure #2. By way of summary the nine problem types are:

a) self concept (eg. "Who am I?")

b) peer perception (eg. "How are my peers the same and different than me?")

c) language and communication (includes verbal and nonverbal)

d) real and pretend discrimination

e) mathematically related problems (one to one correspondence, classification, order, operations of addition, subtraction, and division; volume; space; time)

f) kinaesthetic awareness (eg. hill rolling)

g) perception of motion (eg. motion patterns related to merry-go-round, etc.)

h) balance and large motor competency (climbing, jumping, running, balancing, etc.)

i) fine motor co-ordination (eg. pouring from one container to another)

To grapple with those types of problems, Tod employed five basic types of strategies:

a) manipulation and operation on environment (eg. bending, throwing, pounding, pulling, etc.)

b) use of senses, often several at once in order to ascertain the nature of the environment

c) imitation of peers and adults

d) representation (representative use of toys and materials to portray his world as he understood it)

e) asking questions of peers and adults

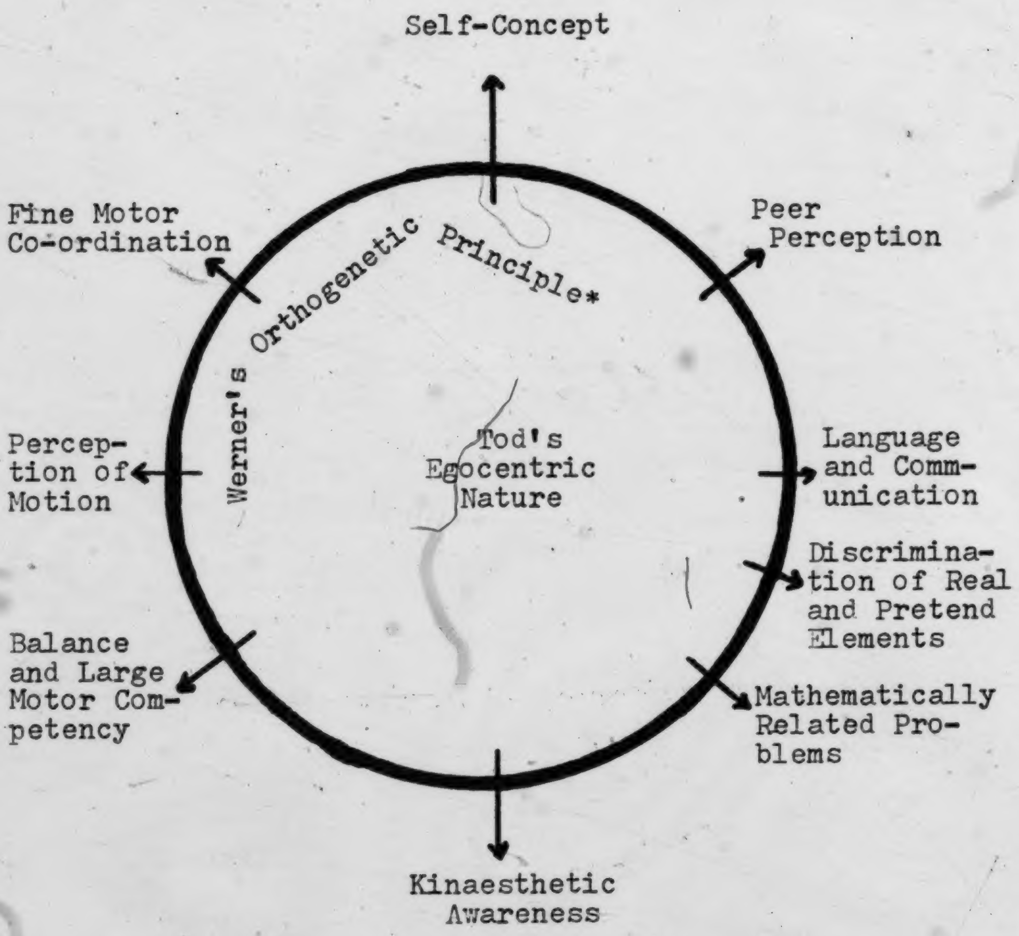
Specific goals were to some extent influenced by the nature of the problems with which Tod seemed to be grappling. However, Tod's dominant goal in all areas of endeavor appeared to be mastery as defined by his ego-centric perspective. As Holt (1967, pp. 48 - 49) suggested, Tod's was a manipulative, sensory approach to his environment. In that way he collected data in each of the nine development problem areas. (See "The Sensory Nature of Tod's Play", Chapter 4)

2. What themes dominate his play and how does he use those themes to define and resolve his problems?

Basically there were four theme types common to Tod's play: vehicle operation, daily life activities, fantasy related activities and natural phenomena.

Vehicle operation themes included the use of cars, boats, bus, truck, firetruck, airplane and train. Concerns related to vehicle operation were generally expressed in a gruff voice. Typical operation problems

Figure 1. Developmental Influences Affecting Problem Types


Self-Concept
Fine Motor Co-ordination
Peer Perception
Werner's Orthogenetic Principle*
Percep-tion of Motion
Tod's Egocentric Nature
Language and Comm-unication
Discrimina-tion of Real and Pretend Elements
Balance and Large Motor Com-petency
Mathematically Related Pro-blems
Kinaesthetic Awareness

* Werner's Orthogenetic Principle states that "whenever development occurs it proceeds from a state of relative globality and lack of differentiation to a state of increasing differentiation, articulation, and hierarchic integration" (Lerner, 1976, p. 116)

included getting stuck, starting the vehicle, and problems with stalling ('got your engine back in heat?'). As Tod drove the vehicle he generally made the sound of the vehicle. Vehicle themes could also be integrated with other theme types. For example, a witch was hiding under the train track bridges and a stalled car faced oblivion from a rising water level when it got stalled in the water fountain.

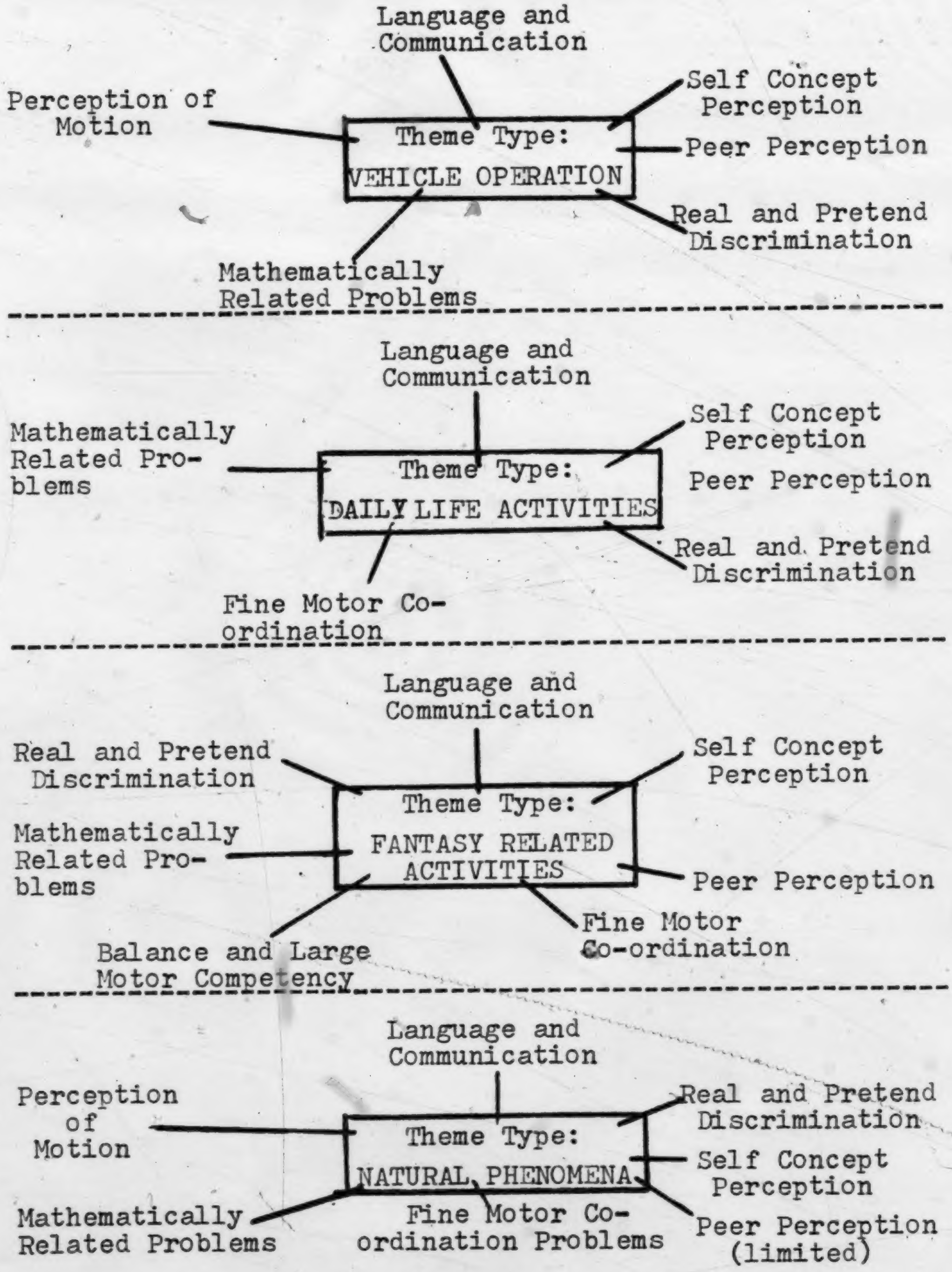
The primary theme dominant to much of Tod's play was that of representation of daily life activities. The most common theme was that of cooking followed by cleaning. There were also two incidents of pretending to void.

The third theme type seemed related to the fantasy world. Possibly through television Tod was able to experience and then portray mountain climbing, shark fishing, and Superman. Witch, monster and Big Bad Wolf may have emerged from literature or perhaps may simply be fantasy creatures common to the imaginative world of the young child.

The fourth theme, that of natural phenomena, included Tod's representation of abstract concepts such as "the hot wind that blowed the sign down", power, waterflow and drainage, and play with insects.

The four themes identified above,furnished opportunities for Tod to further his research in the nine

Figure 2. The Relationship Between Theme and Associated Problem Type


Language and Communication
Perception of Motion
Self Concept Perception
Theme Type: VEHICLE OPERATION
Peer Perception
Real and Pretend Discrimination
Mathematically Related Problems
Language and Communication
Mathematically Related Problems
Self Concept Perception
Theme Type: DAILY LIFE ACTIVITIES
Peer Perception
Real and Pretend Discrimination
Fine Motor Co-ordination
Language and Communication
Real and Pretend Discrimination
Self Concept Perception
Theme Type: FANTASY RELATED ACTIVITIES
Mathematically Related Problems
Peer Perception
Fine Motor Co-ordination
Balance and Large Motor Competency
Language and Communication
Perception of Motion
Real and Pretend Discrimination
Theme Type: NATURAL PHENOMENA
Self Concept Perception
Mathematically Related Problems
Fine Motor Co-ordination Problems
Peer Perception (limited)

identified problem types. The relationship between theme and associated problem type is shown in Figure 3.

In summary, Tod's socio-dramatic play and its related themes (vehicle operation, daily life activities, fantasy related activities, and natural phenomena) seemed to provide a context for Tod to re-enact his view of the "real world". Secondly, the socio-dramatic theme context provided practice primarily with developmental problem types related to self concept, peer perception, language and communication, real and pretend discrimination, mathematically related problems, and fine motor co-ordination.

3. How does association with different peers pose different problems for the child?

Tod related very differently to a number of his peers. Three year old Doug was his closest friend with whom he shared his thematic play and to whom he compared his large motor development. While Tod and Doug played well thematically, their play was frequently highly egocentric. For example, both boys had a "George", the imaginary companion. It was Doug who shared Tod's traumatic play event of falling in the toilet (May 16th).

A problem arose when other children, most notably Shawn, along with Wendy and Christopher, developed an interest in playing with either Tod or Doug or both boys. To retain the exclusive companionship of Doug, Tod used a number of strategies: He was adept at applying centre rules (eg. only two people were allowed to play with a toy or in an area at a time - only Doug and him of course). Secondly, Tod was able to provide nonverbal cues to his peers making it clear that they were not invited (see "May I Play?", Chapter 4).

Although Tod had a verbal formula as to the "rightness" of sharing, he had developed two strategies to justify not sharing. One interesting strategy was to use socio-dramatic play aggressively (eg. The truck was Tod's not Doug's for "My baby's in there! See him! Right in there!" - May 11th). Secondly, Tod would tend to deny a second object, which he, Tod, thought a child would prefer in order to procure an object which he preferred (May 13th). (See "Sharing of Toys and Materials", Chapter 4).

There was also evidence of peer power struggle (eg. See Tod's May 13th manipulations regarding who would be the truck driver). Sutton-Smith also found evidence of peer power struggle in the play of children:

> The business of central-person play shows that often they get together by agreeing that someone is in charge. There is little verbal agreement in this, and the person in charge may only have temporary status. . . . The management of play is a difficult problem, and up until about the age of

> ten or so children may spend just as much time in arguing about management as they will in playing. This is the reason why many psychologists feel that free play is so valuable for children. They really do have to work out the rules for creating social life in their play. (Sutton-Smith, 1974, pp. 117 - 118).

Tod's relationship with three year old Wendy was a curious one. She frequently engaged in parallel play close by Doug and Tod. In her close proximity she gained a fair amount of information about Tod's play. For example she was familiar with Tod's imaginary companion, "George" (May 13th). She enjoyed a lot of the same activities as Tod. However, Tod generally ignored her. Why? Firstly, there was definite status applied to age at the centre (See "What is a Friend?", Chapter 4). Wendy was only three and delicately built. However, Doug, Tod's closest friend was also three so age alone would not explain Tod's oblivion towards Wendy. Sutton-Smith (1974, p. 140) suggested that a second factor determining exclusion was sex:

> Unfortunately, one way children get together in kindergarten is on the basis of sex. We watched a trio of four-year-old girls in a kindergarten setting. They decided to "build a house" using all the blocks "before the boys come." As each boy

> entered, their play was reinforced as they announced, "You can't come in. You're a boy, and this is for girls," even though none of the boys made any attempt to enter. (Sutton-Smith, 1974, p. 140).

To enter the play of other children, Tod generally did as Sutton-Smith (1974, p. 141) suggested, namely to do something playful and relevant to what was going on. (See "May I Play?" Chapter 4).

In summary there were four types of problems which arose while Tod was associating with different peers. The nature of these four problem types was closely related to Tod's ego-centric perspective:

a) Tod assumed that his peers shared his concepts, physical abilities, goals, and values. This created problems related to sharing of toys, materials, and space as well as choice of thematic play theme.

b) Tod's closest friend was Doug. He demanded exclusive companionship from Doug and created a number of strategies designed to isolate Doug from playing with other peers.

c) There was evidence of "peer power struggle" (Sutton-Smith, 1974, pp. 117 - 118).

d) There were peer communication problems (eg. "play entrace", Sutton-Smith, 1974, p. 140).

4. How does the child use the time and space dimensions for problem solving?

Tod's socio-dramatic play reflected evidence that he was trying to use the time dimension from the real world of his experience, portray a series of events involved in a "race against time", and finally Tod's play reflected a concern for planning ahead for a future happening. Thus, Tod's socio-dramatic play supported the growth of his understanding of the concept of time in the "real world" sense. (See "The Time Dimension", Chapter 4 for further elaboration).

The majority of Tod's socio-dramatic play occurred in enclosures permitting privacy or personal space (eg. cement tunnel, chest, interior of tire, etc.) This may suggest that such enclosures may be supportive of socio-dramatic play. Secondly, while "up high" Tod spoke of being "really big" and tended to treat peers "lower down" in a condescending fashion. It was hypothesized that Tod's conviction that being "up high" made him "bigger" could be due to his inability to conserve height. Thus, Tod could be forgetting that the height of whatever he was standing on was not in fact, an extension of himself. Possibly this phenomenon is related to the common early childhood game of "I'm the King of the Castle". (See Tod's "Up High" Behavior, Chapter 4).

Related to the space dimension, was Tod's tendency to examine "the world from a different point of view" (i.e. hanging upside down). One puzzling example was the obvious delight Tod and Doug took in examining each other's hands and feet while looking through a tunnel upside down. It was hypothesized that Tod was exploring the part-whole relationship of the body and possibly seeking an advanced form of object permanence.

Kohlberg (1968, p. 221) discussed the growth of object permanence in the young child:

> By 18 months he knows objects permanently exist though he cannot see them, but it is not until he is about six years old that he views their physical dimensions and identity as unchangeable. Things that change in appearance change in reality.

If, as Kohlberg maintains, the child is unable to recognize that physical dimensions and identity are unchangeable until the child is six years old, then perhaps the child grasps knowledge as to the nature of physical dimensions through experiences in viewing only parts of a whole object or seeing objects from a different perspective. (See "Exploring the World From a Different Point of View", Chapter 4).

In summary Tod, operating on a responsive environment, had the opportunity to explore both the time and space dimensions. Certainly, such understanding is relevant to higher cognition.

5. In what way do the play things selected by the child, pose different problems to him (i.e. structures vs. unstructured toys)?

Tod's use of toys and materials seemed to confirm the position stated by Pulaski (1974, p. 71). She found that structure built into toys essentially had little effect upon the creativity of the play. By five years of age, children who were "high fantasizers" were playing in an imaginative manner with both structured and unstructured toys. Children classified as "low fantasizers" "simply fooled around and manipulated both types of playthings".

As documented by numerous examples in this study (see "Tod's Understanding of Representation in His Play" and "Tod's Use of Equipment", Chapter 4) Tod seldom engaged in stereotyped activities related to equipment and in fact thoroughly explored the properties of equipment, materials, and toys with his senses. He was very adept in his understanding of representation. He also demonstrated ability to use materials about him to augment his socio-dramatic play.

For example, the seemingly "high structure"[1] family wood block puzzle was used to re-enact a baby asking its parents for a drink at bedtime. The baby was placed in the mother's puzzle slot "because the baby loves the mother" (May 11th).

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[1] A "high structure" toy is being defined here as a toy which would suggest that the task could be answered in a limited number of ways.

In addition to using playground equipment atypically, his choice of toys was rather surprising. A choice of toy could just as easily be an old potato chip bag, a stick which could be magically transformed into a "changer" as readily as he could choose a bat for a horse and a lego block for an airplane.

In summary, imaginative Tod who was so thoroughly engrossed in his play, was able to adapt both low structure and high structure materials to experiment in the problem areas identified in this study.

6. What behaviors does the child engage in when faced with problems which he cannot solve to his satisfaction?

The type of behavior in which Tod engaged was, of course closely related to the problem. There were five situation types which seemed to fit into the criteria of question six:

1) Tod tended to substitute an alternate activity when he found that he was unable to perform a desired activity.

Example:

Tod longed to climb the swing pole. Each time he failed this activity he resorted to twirling about the swing bar (April 26th, 28th).

2) When subjects were of ongoing interest to Tod, he tended to repeatedly return to them (See "The Cumulative Nature of Tod's Play," Chapter 4).

3) To justify not sharing space or toys with his peers the egocentric Tod tended to:
   a) explain his ongoing socio-dramatic play theme (eg. The children were forbidden to enter the tunnel on May 10th as Tod was cleaning house)
   b) state centre rules regarding number of people allowed to engage in an activity at a time (Tod generally stated an approximation of, "You can't play. Only two people are allowed!")

4) Aggressive peer action was generally met with Tod giving a soblike yell along with regulatory language, possible physical attack, tears or simply making the noise of crying. As a last resort he would fetch a teacher.

5) Initial apprehension with regard to objects or activities was generally dealt with through successive approximation (eg. see Tod's reluctance to use the monkey bars on April 26th and the change from Tod's initial apprehension to even touch the worms to the development of his

warm, personal, though one-sided relationship with the worms on May 20th).

Conclusions and Implications

Conclusions Regarding the Methodology of the Study

The methodology employed in this study appeared to be an unobtrusive one for children under five. However, older children at the daycare centre appeared much more aware of the instruments used for the study. Much of this interest dissipated by the fifth day of data gathering when the researcher had seemed to become an accepted part of the day care centre environment.

Much of Tod's play occurred in enclosures such as the large tire, enclosures which would have made videotaping most obtrusive if not impossible. Since young children frequent areas such as large tires, chests, etc. and tend to be highly mobile, the methods used for this study may prove valuable for learning more about the nature of young children's play.

The following suggestions are offerred for those considering a similar design:

1. A period of at least four months should be allowed to develop observation skills.
2. A good background of naturalistic research should be acquired prior to embarking on the study.

3) Data collection should be done during a period which would permit a heavy time commitment.

4) Confirmation should be made to assure that all equipment is functioning properly.

The methodology used for the study was very arduous but very satisfying in that it captured a rich description of one child's play. Additionally, categories of play behavior were suggested which would have been ignored had a design been selected which relied upon a checklist.

Implications for Further Research

"Very little is known about what play accomplishes for human and animal organisms" (Sutton-Smith, 1968, p. 165). Although spontaneous play is a "universal" phenomenon (Omwake, 1968), relatively little documentation has been done relative to the play function.

Brandt (1972, p. 15) indicated the need for "purely descriptive details about man's behavioral patterns". He noted that the "behavioral sciences have barely begun to accumulate and classify such data" while "almost every other science is replete with catalogs and handbooks of facts about the phenomena it covers (for example the characteristics of thousands of plants, properties of metals . . .)" Clearly, the study of play requires such description.

Fundamental to naturalistic research is the belief that phenomena occurring in their natural context, have "intrinsic orders" which "exist 'out there'" (Brandt, 1972, p. 7).

This descriptive study employed techniques used in naturalistic research in order to document one child's play. The daily specimen description records (Appendix A, B, and C) should prove valuable to those interested in early learning, development, the play function and naturalistic research.

The many interesting topics relative to "Tod's Play" and the findings for this study were largely obtained by means of recurring summation (Brandt, 1972, p. 223) and use of a time line (Appendix H).

However, this research described only one child's play and how he appeared to make sense of his environment. There is a need to replicate the research findings and the methodology employed for this study.

Garvey (1977) commented on the importance of further research relative to the play function:

> Play has considerable value for students of child development. Some uses are obvious. For example, the changing forms of play, which tend to reflect newly acquired abilities, are associated with the course of normal growth and maturation. The failure

> to evolve - to become more complex and differentiated - often signals the existance of developmental problems.(Garvey, 1977, p. 124).

To understand the "changing forms of play" as suggested by Garvey, there is a need for longitudinal studies to be done on individual children. In that way documentation could become available on the nature of the play function and its relationship to the development of the young child.

Secondly, Garvey commented on the value of examining play behavior in natural settings:

> Children at play enact or represent knowledge of their social and material world they cannot verbalize explicitly or demonstrate in the setting of experimental tasks. As long as we do not interpret their behavior overliterally, we can learn much about children's concepts of social rules and obligations, their understanding of the physical environment, and their knowledge of language structure - about all of the critically human resources at their command. (Garvey, 1977, p. 124).

Another vital area requiring further research is the documentation of effective means in which an adult (parent, teacher, etc.) could interact with children in the capacity of a play tutor. Some preliminary work has been done on identifying ways in which adults can expand the thematic play of young children (Herron, R. & Sutton-Smith, 1971; Lovinger, 1974; Singer, 1973; Sutton-Smith, 1974; and Smilanski, 1968).

As Garvey (1977) suggested:

> Play is most frequent in a period of dramatically expanding knowledge of self, the physical and social world, and systems of communication; thus we might expect that play is intricately related to these areas of growth. (Garvey, 1977, p. 1)

Departments of elementary education and educational psychology are very much concerned with the development of the skills which Garvey associates with play. Because play is a natural context to the young child, the identification of developmental elements inherent in free play and the identification of behaviors associated with effective play tutoring, could become an important focus in the future.

Quality Environments for Young Children

The premise of this study was that young children select and solve problems during play in their environments. These problems were assumed to be child-defined, intrinsically motivated, and closely related to the developmental tasks of the early years. Growth was assumed to occur when the child had the opportunity to interact with relevant elements in the environment which would help to resolve those developmental tasks.

That such a position was not simply esoteric, seemed to be documented in the outcomes of the questions posed for this study. Thus, through self-selected activity Tod was engaged in nine *developmental types of problems* (self concept; peer perception; language and communication; real and pretend discrimination; mathematically related problems; kinaesthetic awareness; perception of motion; balance and large motor competency; and fine motor co-ordination). To grapple with those problem types, he employed five basic types of *strategies* (manipulation and operation on the environment; use of his senses; imitation; representation; and asking questions of peers and adults). Practice was afforded in several of the developmental problem types through the context of his socio-dramatic play *themes* (vehicle operation; daily life activities; fantasy related activities; and natural phenomena).

Almy (1968, p. 359) expressed concern that the cognitive elements inherent in spontaneous play should be assessed as there was a danger that "spontaneous, free-flowing, self-initiated play" would be replaced by "structured play where the cognitive culmination can be clearly foreseen (by the adult at least) from the outset". Thus, she contended that there was a need for teachers to be able to describe the learning taking place in spontaneous play in terms other than those having to do with emotional and social adjustment.

Certainly the documentation of Chapter 4, "Tod's Play" and the outcomes to the questions posed for this study suggest that the nature of Tod's free play was important to his cognitive development. It would have been difficult if not impossible to replicate the range and intensity of Tod's experiences through teacher directed structured play activity.

Such a conclusion supports the premise of this study that the problems a child selects from the environment are essentially child-defined.

Piaget's organismic theory of development also supports the premise stated in this study:

> Piaget's is an organismic account of development; he views development as the outcome of organism-environment interactions and hence as an active, self-generated process. Action - the action of the environment on the organism - is the basis of cognitive development. The disequilibriums continually caused by these actions provide the moving force of cognitive development, and thus changes due to this process are characterized by developmental stages. (Lerner, 1976, p. 173)

Piaget's theory of stages of cognitive development for the child between two and six years, maintains that the "major cognitive achievement" of those years rests upon "systems of representation, symbolic functioning (eg. language, symbolic play, delayed imitation)" (Lerner, 1976, p. 175).

Tod's use of representation, language, and symbolic play and imitation was documented in this study, suggesting that self-selected socio-dramatic play was indeed important to his cognitive development.

Since it is from the young child's environment that he draws the problems which help to resolve developmental tasks through accommodation and integration, the quality of the environment is crucial.

Tod's day care centre was a planned environment, rich in materials, and having a trained staff. Unfortunately, not all day care centres are like Tod's. Inadequate funding coupled with inadequate or no training of personnel, create day care environments which may stifle rather than support the delicate learning process of the young child at a very critical time in his development. Societal trends would suggest that the need for day care facilities will continue to increase. Thus, it is crucial that adequate resources be available to create rich learning environments, and to attract and retain intelligent, well-trained, and concerned personnel.

A second area of concern rests with the schools (Kindergarten to Grade Three). The findings of this study would suggest that self-selected activities in an environment rich in sensory stimuli are important to the developmental nature of the young child.

Reflecting on the tasks the child achieves between birth and age five, it is staggering to imagine what a hypothetical externally derived curriculum guide would look like. For example how many hours of instruction would be prescribed? What subject specialties would be selected? How many volumes of curriculum objectives, procedures, and evaluations would be required? The point of this hypothetical illustration is not to devalue the importance of curriculum theory but rather to illustrate the important learning which takes place in the early years largely through self-selected free play.

Socio-dramatic play is very much a part of the natural life-styles of most five to seven year olds. Could this natural resource not be tapped by the school to extend a child's learning?

To do this it would be necessary to plan environments which would support socio-dramatic play. Secondly, adequate blocks of time would have to be allocated for this activity. Finally, teacher training would be necessary to help the teacher appreciate the valuable elements inherent in free play.

Garvey (1977) noted that playing is a "voluntarily controlled activity" where "imperfect achievement is minimally dangerous". Thus, Garvey suggested that the effects of play are "probably intricately related to the child's mastery and integration of his experiences".

By way of practical application of Garvey's statement, the following illustration could be considered:

The main impetus of the Grade One Social Studies program in Alberta is concerned with the child's appreciation and understanding of the family. In socio-dramatic play one of the most common themes of the six year old revolves around family relationships and events which naturally occur in families. By providing the children with a setting and the freedom to engage in thematic play, much personalized learning could occur. Ideally the teacher would be able to function as a play tutor and could extend the children's appreciations of the family.

Garvey (1977) discussed the relationship between socio-dramatic play and the "real world":

> A behavior pattern performed in the simulative mode can be elaborated and combined with other similarly "displaced" patterns. When the behavior is next performed in a nonplay mode, it may be more skilled, better integrated, and associated with a richer or

> wider range of meaning. In this way play can contribute to the expertise of the player and to his effectiveness in the nonplay world. (Garvey, 1977 p. 124)

Finally, documentation of Tod's play on the park and playground, suggests not only the importance of having facilities such as this but also the importance of exposing children to these facilities. Using the combined resources from his day care centre and the wide range of playground equipment, Tod was able to conduct many interesting experiments. Visiting the park in the spring provided Tod with a natural laboratory to examine the emergence of insect life and bushes in blossom. Certainly quality environments such as this foster growth and development.

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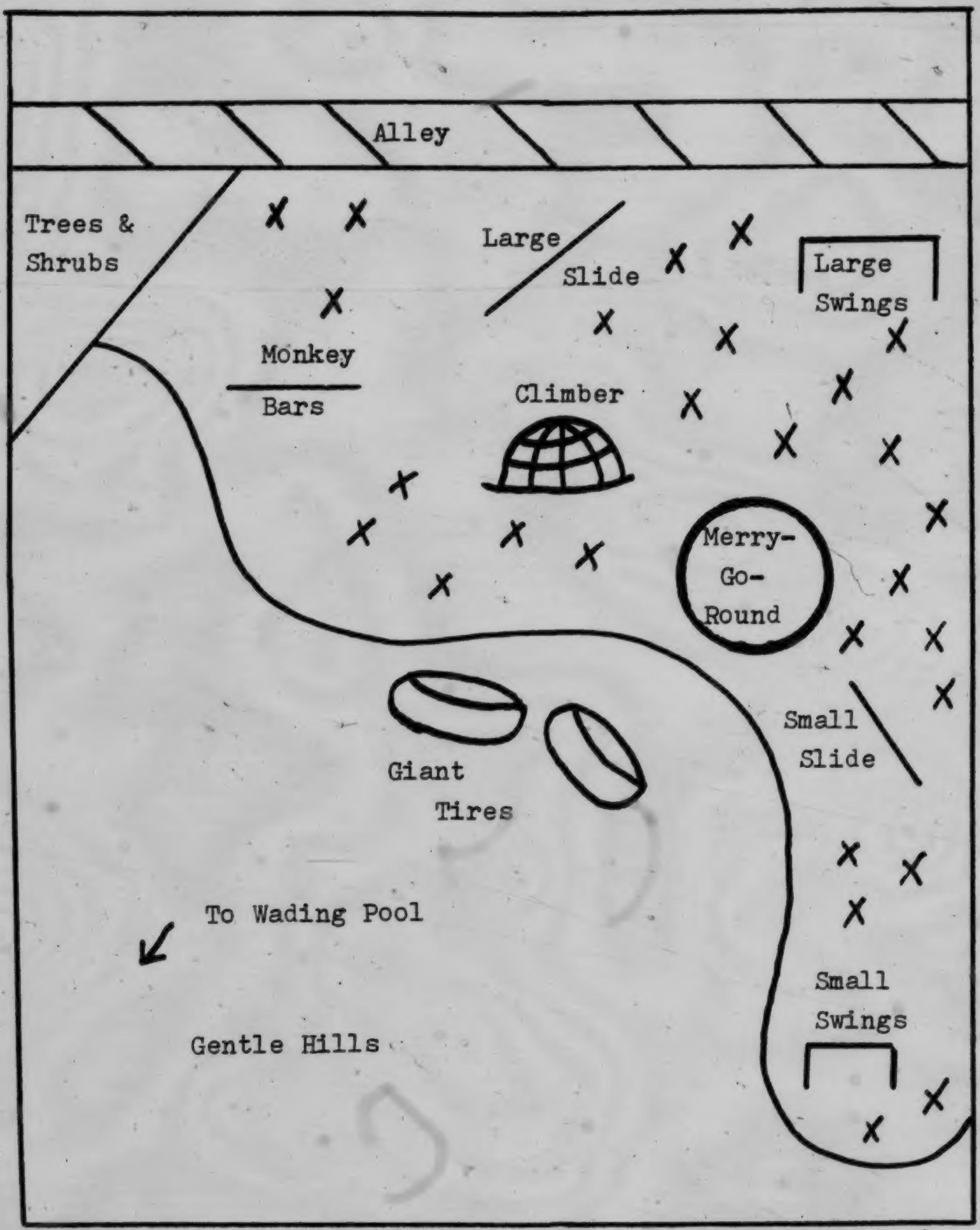
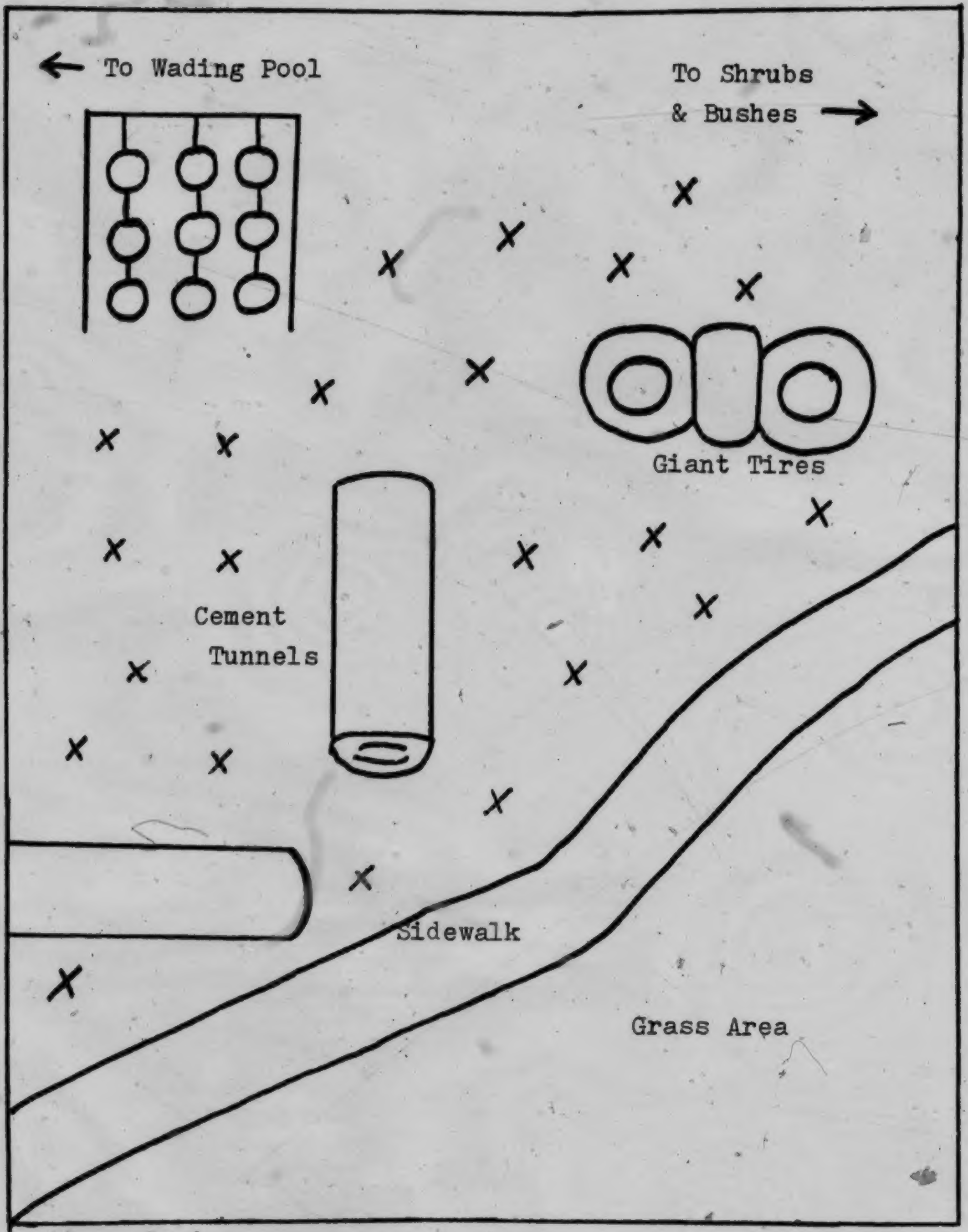
Appendix "A": Park I


Alley
Trees &
Shrubs
Large
Slide
Large
Swings
Monkey
Bars
Climber
Merry-
Go-
Round
Small
Slide
Giant
Tires
To Wading Pool
Small
Swings
Gentle Hills

X - Sand
* - Not to Scale

Appendix "B": Park II


← To Wading Pool
To Shrubs & Bushes →
Giant Tires
Cement Tunnels
Sidewalk
Grass Area

X – Sand
* – Not to Scale

APPENDIX C: SPECIMEN DESCRIPTION

Tuesday, April 26th, 1977 - Park I

9:55 Tod walks down the alley to the park with two other boys. As they walk they kick the gravel creating clouds of dust. Tod, watching his feet remarks, "Hey, there's a spider chasing us!"

The boys break into a run and have now reached the grassy edge of the park. Tod crawls into a giant tire with Doug.

From inside the tire Tod cries, "Ding dong! Ding Dong! There's a fire!"

Tod crawls out of the tire and is followed by Doug. "Come on! To the firetruck!"

Tod races to the merry-go-round and slides onto it. "No, no! Doug! Doug! Doug!" (Doug has departed to the small swings).

Tod continues calling Doug and (reluctantly) he returns to the merry-go-round. Doug rides the merry-go-round briefly and then is off to the toy supplies.

Gazing after Doug, Tod sits on the scarcely moving merry-go-round with his legs straight out in front of him. He picks at an old scab and murmurs that his knee hurts.

Doug reappears with a boat and collapses on the sand by the merry-go-round. Drawing the boat through the sand, Doug creates long ridges in the sand.

Tod, dismounting merry-go-round and watching Doug's boat cries, "Hey Doug! Let's pretend!"

Racing over to toy supplies, Tod picks up a pink bat then drops bat. He shuffles through toys, then runs back to where Doug had been playing with the boat. Doug, however, has left.

Tod grabs Doug's deserted boat and races over to cement wading pool area. He drops the boat.

Joining Shawn, Tod and Shawn run beyond wading pool area. They stop to chat with a lady and follow her from the nine-tire apparatus to the giant tires, then return to tire apparatus and look at brown log frame.
(Since the observer was in the distance, the following information was obtained from the above lady regarding the details of the above encounter).

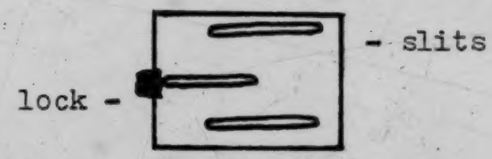
The lady was a daycare teacher from "B" Day Care which is a centre located near the "A" Day Care. Both centres frequently bring their children to the park. Upon reaching the lady, Tod asked her what she was doing. She explained that she was hanging paper bunnies for a bunny hunt for her students. The boys then followed her to the large tire area and watched her hide some bunnies. The boys then returned to the frame of the nine hanging tires and watched a spider move out of the log.

An "A" Day Care assistant then appeared and reminded the boys that they must return to their own area of the park and that they had wandered out-of-bounds.

Time: 10:00.

• Tuesday, April 26th, 1977 (10:09 - 10:42) Park II

10:09 - Sits on green rail bordering wading pool and gazes towards playground. Slipping off rail, races around wading pool. Swoops down (examining) trapdoor of wading pool


"Trapdoor" with a padlock and slits

10:10 - Races back to giant tire on playground where there are a group of children. Crawls into tire. Wiggles out of tire and breaks into run on grassy field.

10:12 - Still racing. Stoops down to watch a bumblebee crawling through grass. Races towards wading pool, looking back towards children as he runs. Climbs up on green rail.

10:13 - Races round the pool. Stops by trapdoor again. Edges lock on trapdoor with toe. "Bursts into steam" and makes a large circle by the bushes, back and around the sand area to the monkey bars.

10:17 - From the monkey bars runs to the merry-go-round. Then, over to large swings where he finds an empty swing. There is a brief argument between Doug and Shawn over who could push Tod on the swing. Doug gives Tod an underpush, narrowly missing his head and scarcely moving Tod.

Tod: "No, not you, Doug! Teacher! Teacher!" (He calls toward teachers for a push).

Tod: "Doug can you twist me around?" (Doug wanders off towards small swings).

The child next to Tod has wound the chain of the broken swing around herself. An adult intervenes and explains to the child that the chain is getting tighter and tighter and is not safe to play with. Tod listens to the conversation looking at the tightly wound chain.

With his feet Tod pushes his swing. As the swing begins to move he releases his right hand and starts to stand up - sits. Releases his left hand. Holding onto the swing once more, he straightens his body and lowers himself to the ground.

Races to small swings where he winds Shawn around causing his swing to whirl. Teacher intervenes: "No!"

10:26 - Attempts to climb up swing bar. Then hanging on to swing bar, twirls body around bar. Races back to large swing area where there is a parent helping two girls balance themselves as they walk along the green rail bar which borders this area.

10:29 - With the bar between his legs, Tod straddles the bar and follows the two girls as they walk along the bar. As one of the girls loses her balance and the second girl jumps off, Tod asks the mother: "I want to do it now!" The mother refers Tod to a teacher.

Tod sits down on broken chain swing and watches as Doug and another boy are tussling. A mother swinging her child nearby tells Tod: "Oh, no good! The swing is broken, no good! The swing is broken!"

Tod stands up on the chain and with hands locked overhead swings gently.

A child leaves a nearby swing and Tod leaps on. He asks the mother for a push. She gives him three small pushes. He surveys the playground as he swings. He tells the mother he wants to stop. She seems surprised that he wants to stop so soon (swung about one minute) and stops him. Tod drops to the sand by the merry-go-round and cups his hands with sand. He begins drawing lines in the sand. He stops and looks at the climber where a group of children are climbing and yelping.

10:36 - Races over to small slide, slides down and finds a stick of about seven inches partially buried in the sand. Grasping stick chases after Mike and Doug who are running towards large slide. Mike goes down first and Doug giggling, lands on top of him. Tod seated at the top of the slide waits as a number of children gather behind him. He still holds his newly found stick. A teacher asks him to move down the slide.

10:39 - Slides down and scampers over to monkey bars. Climbs up monkeybars and hangs on but seems very hesitant. Cautiously releases his left hand. A teacher encourages him: "Let me see you! Go to it!"

Tod hangs on and then rests at the beginning of the monkey bars.

Linda looking up at Tod tells him that she is bigger than her mother.

Tod emphatically tells her, "You know you're not bigger than your mom!"

Linda replies, "No, I am too! I go to school!"

Tod: "Oh." He jumps off the monkey bars and mounts the large slide. At the top of the slide he chats with a boy and points towards the wading pool area. Slides down slide.

10:42 - Mounts monkey bars and jumps down before trying them. Picks up a stone, looks at it as he turns it over in his hand and wanders towards merry-go-round.

Scene: Playing in sand near the merry-go-round (10:49 - 10:55)

10:49 - Kneeling Tod digs in the sand near the merry-go-round. Swoops handfulls of the deeper "cooler" sand over his knees covering them. Picks up handful of sand and watches as it sifts through his fingers onto his knees. He slaps the sand on top of his knees flattening it. He pats it.

Still kneeling Tod scoops out sand between his legs. Another child drops beside him. Tod picks up two handfuls of sand and holding it over his own head, he allows it to trickle into his hair. Smacks sand out of the other child's hand. Child leaves.

Stretches into a push-up and with hands and foot supporting body, lifts left leg into the air. Draws long line in sand with toe of runner.

Sitting, fills a green, plastic container with sand

and begins making a sand pile. Now, using container as a scoop he continues increasing size of sand pile.

Picking up a twig, Tod pokes holes in the pile.

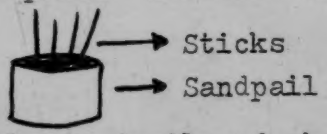
He covers the green container with sand, gently patting it down. Then standing he surveys the covered container with only its edges showing.

Two boys walk by, stamping the container into the sand.

With a soblike yell Tod cries, "Hey, don't do that!"

10:55 - Pries the green container out of the ground and walks away from the area, holding his container.

Scene: Still carrying his green container, Tod watches a group of children who are surrounding a pail with sticks planted in the sand in the pail. A little boy softly sings "Happy Birthday".



10:58 - Chad squatting examines the sandpail and chats with a child. He looks towards the edge of the wading pool where there are pairs of children playfighting on the top of the gentle hill by the wading pool.

Running over to the playfighting, he watches as pairs of children tussle on the grass and giggling begin rolling down the slight hill.

On a slope perpendicular to the children, Tod still clutching his green container hurls himself down, rolling down the hill. At the bottom as he slows down, he watches a bug crawling through the grass.

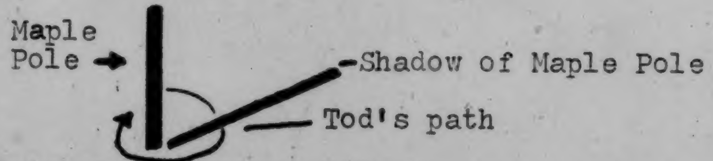
Running up the slight hill to the wading pool, Tod runs into the cement wading pool where he finds another trapdoor on the base of the pool. Crouching down on all fours, he peers down the holes of the trapdoor.

Rising, he runs over to the green rail of the border of the pool and watches a bulldozer passing through the alley.

Jumping off a ledge, he skips over to a maple pole in the field where he watches children filling pails with sand and dirt.

As the children leave the maple pole area, Tod holds maple pole and runs around the pole repeatedly. As he runs, he continually looks towards the area where the maple pole makes a shadow.

11:02 -



Running back to sand area by the merry-go-round, he finds a pail and puts in two handsful of sand. Next he begins pulling out grass near the border of the sand area and stuffs it in the pail. He puts in one more handful of sand. Racing over to maple pole area, he sprinkles dirt into the pail.

The following conversation took place between Tod, two other children, and the researcher:

Tod: (to researcher) "I'm cooking supper."

Researcher: "What are you making, Tod?"

Tod: Vegetables.

Researcher: What kind of vegetables?

Tod: Blue kind.

Researcher: Blue vegetables?

Tod: Yea, and rotton bananas.

Researcher: Why are they rotton?

Tod: Because they come from the rotton store.

Researcher: What colour are rotton bananas?

Tod: Green.

Researcher: You said you were having vegetables for supper. Can you give me your recipe and I'll write it down?

Tod: Sure! You need sand and dirt and grass and you have to mix it all together.

Cindy: Hey that's not dirt, that's dust! (referring to dust under maple pole).

Tod: (emphatically) It is not! It is DIRT!

Researcher: (To Cindy) How do you know it's dust?

Tod: Yea, how do you know?

Cindy: (throwing dirt from ground into the air) It's dust because when you drop it, it makes puffs of smoke.

Tod: (picking up some dirt from the ground and throwing it into the air) This is fuzz.

Researcher: How can you tell?

Tod: Cause it makes smoke when you drop it.

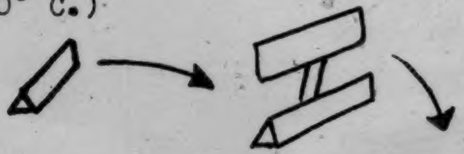
Michelle: I'm making cherry pie. Do you want my recipe?

Cindy: "I'm making raspberry pie."

Tod: (to Cindy) "You copied her!" (11:14 A.M.)

Wednesday, April 27th, 1977

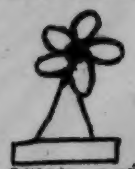
Tod was seated at the table playing with interlocking geometric shapes when the researcher joined him. This incident occurred the morning after Edmonton had experienced a dust storm accompanied by high winds. The storm was the aftermath of unseasonably warm weather (30° C.)



"The hot wind that blowed the sign down"

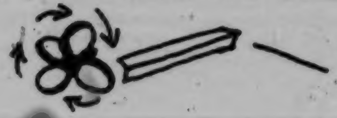
Tod voluntarily provided the following information about the above figures. He explained that the triangular disc was the "hot wind that blowed the sign down." He explained that hot winds can even blow down trees. He had made two signs. One sign told the people to stop and the other sign told the cars to stop. Rotating the sign around in his fingers, he said that when the sign turned the cars could go and similarly explained that the people could also go when their sign turned around.

Next he announced that he was making a flower. He gathered together multicoloured ellipses, circle, triangle and rectangle. Then he created his flower. He joined the ellipses to the circle (various coloured petals), used the triangle for the stem and the rectangle as the base. As he worked, he repeated several times, "I'm making a BIG flower."



"The BIG flower"

Setting his flower aside, Tod began assembling a fountain. He explained that as the ellipses spun, water was released (. . "when the fountain turns it makes water").

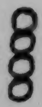


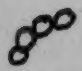
Pipe for rain

After giving this explanation, he added a "pipe for water to come out to rain for the grass." While manipulating the fountain, the structure broke. Explaining the accident, Tod noted that the "power broke it and then the daddy's fixing it up." When asked who was the daddy, Tod replied, "I am."

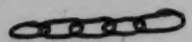
Next Tod announced that he was making a snowman. He assembled four circles of different colours. After joining the circles together, he experimented with moving the circles out of alignment.

Snowman





Experimenting with alignment

Next Tod collected a number of coloured ovals and assembled them, wiggling both sides of the structure. He announced that it was a caterpillar. 

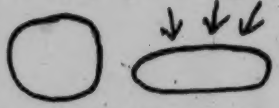
Two boys were having an animated discussion on sharing and the three year old saw no reason to share. With finality and conviction, Tod leaned across the table and announced, "Yes, you have to share!"

Thursday, April 28th, 1977 - Park I

10:45 - Five children are riding on the merry-go-round. In the centre is Shelley. As the merry-go-round slowly moves, Tod drags his feet along the ground. Tod hops down and starts to push. Shawn joins him. Tod hops on and drags feet. Wiggling, he makes himself flat, looking up at the sky, holding on with both hands as the merry-go-round squeaking, turns. Slips off and pushes with Brian and Shelley. Pushes, laughing - releases merry-go-round, catches up running with merry-go-round. Pushes once more and leaps on merry-go-round. Squirms down flat on merry-go-round with left leg dragging in sand. Curls into fetal position, hanging on with both hands and right ear pressed against the base of the merry-go-round. Head drops over side of merry-go-round, looking up towards sky, eyes squinting from the sun. Merry-go-round stops. Tod boosts himself up and rolls over from his tummy to his back, and to his tummy, drags fingers along sand. Merry-go-round gently moving. Tumbles off into the sand. Initiates tussle with Larry who is riding the merry-go-round. Tod grabs hold of his hands. Larry hops off and lands on top of Tod then resumes riding merry-go-round. Tod scrambles over the bars of merry-go-round as Barry commences pushing. Tod stands up on merry-go-round and pushes Larry off. As merry-go-round slows, Tod hops off and runs over to peak at children playing in large tire area.

A hoola hoop sails through the air. He watches it and talks to teacher who has hoola hoops. Runs with hoola hoop around him and gripping hoola hoop, climbs on merry-go-round. Holding hoola hoop with left hand, envelopes two children in centre of merry-go-round. Shelley crawls into hoola hoop. Tod pulls hoola hoop off children, talking with them as he does so.

10:48 - Traps Larry with hoola hoop and he seems (upset). Shakes hoola hoop off. Both Larry and Tod hop off merry-go-round and begin tussling. Tod runs off and Larry resumes the merry-go-round. Tod finds a second hoola hoop. Swings a hoola hoop over a little boy walking in the sand. Squashes his remaining hoola hoop as flat as he can make it by pushing down with full weight on hoola hoop.



Kneels in sand; removes runner and begins scooping up sand with it.

Throws hoola hoop on merry-go-round and leaps on. Jumps off and picks up potato chip bag. Hops on merry-go-round grasping runner and potato chip bag. Smiling broadly at Larry who is pushing merry-go-round. Larry crosses over merry-go-round to Tod. Both tumble off merry-go-round and Tod begins chasing Larry, while grasping runner and bag. Drops bag, returns and picks it up. Continues chasing Larry; drops runner, races on with hoola hoop. Returns, picks up runner. Climbs on merry-go-round with hoola hoop and runner and seats self in centre of merry-go-round.

Michael picks up hoola hoop and hops off merry-go-round and begins spinning it. (10:52).

10:54 - Tod repeatedly jumps off merry-go-round into sand beneath him. Merry-go-round gently spinning. Climbing out of the sand, Tod gives it a push. Leaps on, stands, jumps off into sand, lies down in sand. Leaps on, stands, jumps off, kneels in sand, rolls in sand. Climbs on merry-go-round, jumps off backwards, landing on back. In sand does cartwheel like motion. Balances on one hand and foot while other hand and foot are in the air. Seems to be trying to balance on hand and foot. (10:57)

11:00 - Races around merry-go-round, grabbing bar of merry-go-round, leaps on, tucking both feet under him. Hops off merry-go-round races to large swings. Clasping chain of broken swing (holding on with both hands gripping chain over his head) he raises his right knee and tucks into base swing chain, positioned partially by his ankle. He swings gently in the chain with his left leg pushing off from the ground.

Michael carrying a shovel arrives and shakes the chain on which Tod is riding. Tod gets off and Michael mounts chain. Tod, standing in front of Michael, stares at him for about thirty seconds. Tod surveys playground, then looks back at Michael.

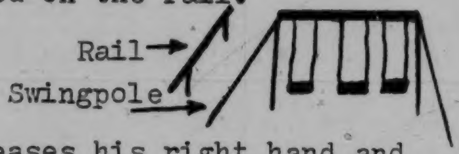
Tod turns and watches a dumptruck drive down alley making a rumbling sound. He turns back to watch Michael who swings with one leg through chain.

Wandering away from the swings, Tod discovers a log of about three feet long. Scratches end of log in sand. Tucks log under his arm as if carrying a shotgun. Taking huge, dragging strides, he moves across the sand to the small swings. Now strides over near merry-go-round. Kneels in sand and strokes end of log back and forth through sand. Tips log over and with the flatter plane of the log pushes large mound of sand (handles log as one would a rolling pin) however, he makes a scraping motion with flattened end of log. A plane passes overhead and he gazes up, watching it until it is out of sight. Now gripping log with both hands, begins using end of log as a digger. Repeatedly he jabs and digs at the sand creating a mount. (11:04)

11:08 - Tod swings back and forth on the broken swing (has balanced himself on the chain, kicks feet over trying to climb up pole of swing while hanging onto swing chain. A teacher intervenes and talks quietly with Tod about the possible dangers of the chain. The teacher ties the chain over seat of swing, and thus the chain is out of the reach of the children. As the teacher leaves, Tod attempts to climb up swing bar. Holding on with both hands, he kicks his legs up into the air and tries to raise his body weight with his supporting hands. Failing this, he begins twirling around the bar, bracing his foot and using his hand as a pivot around which to rotate.

Runs across to the rail bordering the large swing area. He climbs onto the rail and stretches his body forward, holding on to the supporting framepole of the swing set and his feet supported on the rail.

Tod balanced between these:



Maintaining his balance he releases his right hand and watches children on swing. Reaffirms grip with right hand and releases left hand and watches children on slide. Now hanging onto swingset pole with both hands, he pulls his body up on the bar and pulls his feet off the green rail and onto the ground. Holding onto the pole, he twirls his body about the pole, round and round.

Climbs over green rail where he has discovered some spilled garbage. Picks up a margarine container, pries lid off and sniffs it, flings it on the ground. (Seems fascinated by garbage, walking around it, squats down and looks at broken bag of garbage). Bends over, picking up egg shells, sniffs eggshells and flings eggshell. As the eggshell lands, the other half of the eggshell has tumbled out of the first eggshell. Tramples over the top of the eggshells, stamps eggshells with feet, crumbling the shells.

Walks over to a tree and rubs hands against the bark. As Tod returned to play with the garbage once more, the researcher interacted with Tod due to the unsanitary nature of Tod's discovery.

Researcher: What did you find Tod?

Tod: Some dirty stuff!

Researcher: You found some dirty stuff, eh?

Tod: Uh huh! Dirty ones. It doesn't smell good, though.

Researcher: That's not very nice for our park. Let's go back to the playground.

Tod: Yea!

Tod breaks into a run and races along path, by bushes, and up hill by wading pool. Runs "full steam" down the hill, hair flying through the air to the large tire.

Jumps up boosting self with both hands on the tire, lands on ground again. Walks over to a teacher who does up his shoe. While she ties his shoe he's busy looking all around the playground.

11:15 - Tries to step on end of rope as a little girl drags a skipping rope along.

Standing at rail takes a run to the large tire, leaps up grabbing inside of large tire, pulls body up. Kneels on tire. Stands up and jumps down into the centre area of the tire. Twirls around inside of tire. There's water from the rain left in the tire. Inside the tire, he's discovered on Orange Maid container and picks it up holding it with right hand. He picks up water from the deep edge of the inside of the tire and pours in down to the shallow edge of the tire. It runs down a gentle incline plane in the tire back to the deep end. Fills container and flings it at the dry sides of the inner tire and watches as it runs down the slope. He continues filling and flinging at the alternate dry areas. Teacher advises him that it's time to go and offers to help him out of the tire. (11:18)

Monday, May 2nd, 1977 - Park II

Today Tod invited the researcher to join in his play. Based on the inference drawn from the observation on April 26th when Tod seemed to have problems in extending his socio-dramatic play due to attempting to involve children not maturationally ready to engage in such play, the researcher decided to adopt the role of a play tutor. As play tutor she would help Tod to extend his theme but gradually withdraw from play as Tod changed the focus of the play. It was the desire of the researcher to see how far Tod could extend his play with support to his cues. For example, when the interaction began, the only other child present was Doug, the child who was unable to take up the cues Tod provided on April 26th. Below please find a transcription of the play:

Scene: Tod arrived late on this particular morning.

When the researcher located him, he was building a "fire" with Doug. In a hollow in the field he had placed a brown paper bag, paper and many small sticks and twigs.

Tod: Do you want to come to our fire?

Researcher: Sure! I love wiener roasts. Do you have any more wieners?

Tod: (big smile) Here (hands researcher a wiener)

Researcher: Thanks Tod. Have you got a stick?

Tod: (starts to take a long twig from "fire".)

Researcher: (touching wiener stick, hand withdraws and shakes as if burned) Oh! That's hot! I'll maybe let it cool abit, O.K.?

Doug: (giggling)

Tod: (touching stick gingerly) Yup, let it cool; yea, it's cool.

Researcher: (touching stick gingerly imitating Tod's action) Is it cool enough?

Tod: Yup.

Researcher: O.K., I'll try to get the wiener on. You guys light this fire all by yourselves?

Tod and Doug: Yea!

Enter girl with orange container.

Researcher: Oh, you brought orange for the picnic!

Girl: Are you having a picnic?

Researcher: Oh, oh! There goes some of our fire wood! (wind blows scraps and paper a short distance from "fire"..

Tod, Doug and girl have sticks and are roasting wieners).

Researcher: How's your's coming Tod?

Tod: Fine.

Researcher: Oh this is getting burned! (concern for wiener).

Tod: Can you give it to me. I'll do it!

Researcher: O.K. Do you want to take it off the stick? Don't burn your fingers!

Tod: O.K. (Gingerly takes "wiener" off the stick) I've got a sandwich (bun) for it! (Takes out bun and inserts wiener)

Researcher: Oh good! Do you have any mustard Tod?

Tod: Right here.

Researcher: Right there. Oh, O.K. Are you ready for one?

Tod: Yea! I got one made right here.

Doug: OW! (waves fingers as taking wiener from stick)

Researcher: Oh! Did you get burned! Careful!

Shawn: Oh, mine turned into a marshmallow (as he's roasting)

Researcher: O.K. Blow it, get it fixed up.

Girl: I found a marshmallow! Marshmallow!

Doug: (referring to wieners) We could of cooked them in the pan.

Researcher: (referring to marshmallow) I like mine toasted brown.

Shawn: So do I.

Doug and Tod eating hotdogs

Doug: I beat you Tod.(finished his hotdog).

Tod: (still eating) No, you have to eat longer.

Doug: I beat you Tod.

Tod: No, you have to eat it longer.

Doug: I beat you.

Tod: No you didn't! You have to eat it longer.

Shawn: I hate these hotdogs.

Tod: (taking wiener roasting stick) I'm going fishing. I'm going to catch a fish.

Researcher: Are you? You're going to catch a fish?

Shawn: I'm goin' fishing too.

Girl: (handing researcher a fishing rod) Here, you catch a fish too.

Researcher: (to girl) Thank-you. You go fishing with them, too, eh? I'm going to check that we've got enough supplies. See you later (remains by fire).

(All children go fishing with Tod. They are near bushes about ten feet from the fire. They cast their "rods" towards the bushes and comment about their fishing. Researcher remains by the fire).

The children very excitedly come racing back.

Child: I caught a fish!

Researcher: O.K. Just put it right over there. We'll roast it later!

Shawn: I gotta fish!

Researcher: O.K.!

Tod: I'm going to cook him!

Researcher: Did you guys clean them?

Tod: Yea! My fish is ready now.

Researcher: Oh, is it ready? You better get the frying pan out.

Doug: Are those fish still alive - I mean dead!

Girl: (excitedly comes running with "frying pan") Here's the frying pan!

Researcher: O.K. You and Tod go get it ready.

Tod: I did. I just turn on the button. (A short distance away Tod has turned on button on his stove.)

Enter Child: (calling) It's time to play hockey!

Tod: (referring to oven) I turned on the ? so it could be on!

Researcher: What's on Tod? The oven?

(Due to noise of hockey game - rest of tape difficult to transcribe. However, Tod decided to cook his fish in the oven while the other children decided to cook there's over the fire. Cooking fish over a fire seemed to be a new idea for Tod. While the fish were cooking, a little boy showed Tod his "fishing rod" and said it was a gun. Tod momentarily played guns and then returned to cooking his fish, checking it in the oven to see if it were ready. Wendy, a three year old began taking sticks from the "fire" and this upset Tod. Shortly after this, a group of boys took the former fishing rods and longer sticks from the fire and sitting down where the fire was, began chanting and drawing in the patch for the fire. Tod began to cry, saying that it was his fire. Turning to the researcher he said,"They just yelling!"

Tuesday, May 3rd, 1977 - Park II

Summary of Tod's Activities (10:25 - 11:10):

Jenny applied baby lotion to her skin and told the children that her "sun tan lotion" would keep the bees away. Tod, riding his horse, a pink bat, interjected saying that the sun tan lotion smelled sweet and bees like sweet things like honey. An argument ensued amongst the children as they sniffed Jenny's skin and tried to decide if the lotion smelled like honey. Tod pointed out that bees are in the bushes and the flowers in the bushes did not smell like honey. Another boy added that the bees used the flowers to make honey.

Shawn asked Tod if he could have the bat and Tod replied, "You can't. It's my horse."

The researcher asked Tod what the ball was if the bat was his horse (In addition to straddling the bat, Tod also held a small ball). Tod answered that the bat was not a horse when he played with the ball. Banging his bat on the ground he said, "See, now my bat's a drum. It beeps". (The drum did indeed make a sound very close to a beep when it struck the ground.)

Tod walked off toward the bushes throwing the ball into the air and trying to hit it by aiming the bat at it as one would if throwing underhand. After the ball dropped to the ground several times, Shawn picked the ball up and offered to throw the ball for Tod to hit.

Shawn pitched to Tod for about three minutes. However, Shawn stood too far from Tod and thus was unable to throw the ball within the range of the bat. When the ball rolled near his vicinity, Tod drove it with the bat as one would drive a golf ball. Tod was only able to drive it a few yards, but on one occasion when the ball was driven back almost to Shawn, Shawn praised Tod, "You hit it good!"

Shawn accidently pitched the ball into the bushes and when Tod went in to retrieve it, he chopped at the ball with his bat, lifting soil and only moving the ball a few feet in the bushy terrain. Holding the bat over his head, Tod then began chopping the soil in earnest, raising dust and ignoring the ball. Shawn retrieved the ball and asked Tod if he could have a turn with the bat while Tod threw the ball. Tod did not answer and continued chopping. A teacher told the boys to get out of the bushes and back on the grass. Shawn followed Tod out, pleading with Tod for a turn on the bat.

Tod threw down the bat and told Shawn he did not want to play any more. Picking up a skipping rope, he dragged it by one handle across the field to the large tire area. Still dragging his rope he climbed up the tire, using the rivets in the tire to obtain a grip for both his hands and then swinging up his feet and gripping them in the rivets. Four tires are positioned like a cross. Tod clambered over the tops of the tires and rested on top of a second tire, his skipping rope drooping over the edge of the tire to the ground. A little girl inside the tire clutched the end of the skipping rope and began pulling, trying to haul the rope down. Tod, with an angry sob, gripped his end of the rope and sought to pull it up as if hauling up a heavy fish. The little girl was winning the tug-of-war and Tod began to cry. A teacher intervened and asked the little girl to let Tod have the rope. She complied and Tod eagerly hauled up the rope, wrapping it around his wrist. Then rolling over on to his tummy, he peered over the edge of the tire (to see who was inside the tire). Sitting up, he shifted to the top of the tire he had initially mounted, and with his feet hanging over the tire he began tying a double knot. Rolling over on his tummy, he slid off the tire and walked towards the wading pool, tying the rope about his waist, then bending over and tying the rope about his thighs. The rope from his thighs slid down entrapping his ankles so that he had to hop when he walked. He asked the researcher to tie the rope for him around his thighs. The following conversation ensued:

Researcher: Why do you want the rope tied about you, Tod?

Tod: Well, when you go climbing, you have a rope tied around you and you throw the rope up and then you can climb up on things.

Researcher: So you're going mountain climbing!

Tod scampered off to the large tire area. As he climbed the tire rivets, he flicked the handles of the skipping rope against the tire with his free hand. Finally, scaling the "mountain", he called to the near-by children, "Hey, I'm a mountain climber! I'm a mountain climber!" The children took no notice and Tod called to the researcher, "I'm a mountain climber! See this is my mountain" as he patted the tire. "And you use these for climbing," he added importantly tugging at the rope tied about his waist.

Noting the researcher seated on the grass writing in her notebook, Tod called, "Hey! How do spell mountain?" Wondering if Tod knew what spell meant, she asked him how he thought mountain should be spelled. Tod called back four random letters, then repeated his question, "How do you spell mountain?" The researcher orally spelled "mountain" and Tod urged,"Write it down, I want to look at it." Looking at the word "mountain", Tod observed, "Sure is a big word!"

Sliding off the tire, Tod sat down with a group of three children who were getting some baby lotion from Jenny. As Tod asked for some lotion, a girl flippantly answered, "Sun tan lotion is only for girls, right Jenny? and Tod you're not a girl so you can't have none!"

Jenny squeezed out some lotion for Tod and rubbed it on his leg, saying "Sun tan lotion is for everybody."

Tod sniffed his leg and said he smelled nice. Then noting that some dirt had settled on the lotion, he (carefully) brushed it off with his nail. Picking up the handle of the skipping rope of the girl who said he could not have any lotion, Tod repeatedly tried to insert the handle of the second skipping rope into the handle of his rope.

Taking both skipping ropes, Tod crawled into the cement tunnel where he continued trying to insert the handles into each other.

Shawn, climbing on top of the cement tunnel, leaned his head into the tunnel and echoed loudly, "Hello in there!"

Tod, still intent on inserting the handles, asked, "Do you want to come for supper? I'm cooking supper."

Shawn slid off the tunnel and proclaimed loudly, "I'm hungry! What's for supper?"

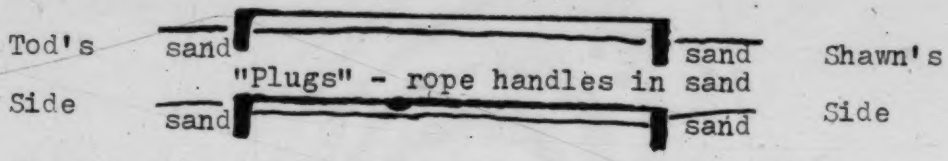
At the same time a second little girl entered from the other side of the cement tunnel and called, "I'm hungry! What's for supper?"

Tod continued manipulating the skipping rope handles and called out angrily, "It's not ready yet! I'm cooking! It's not ready yet!"

Seeming to enjoy the echo, Shawn and the girl, repeatedly cried, "We want supper, we want supper, we want supper!"

"It's not ready yet! I'm still cooking!" raged Tod crawling over Shawn and out of the tunnel.

Still dragging the two skipping ropes, Tod crawled inside a tire, at the bottom of which was sand. He filled and emptied the alternate handles of the skipping rope. Then, filling one of the handles with sand, he pushed the rope out of the handle, pumping it like a syringe, and spraying the sand from the top of the handles. Next he half emptied the handle of sand and then continued filling it by sprinkling sand in it with his fingers. Then he drew the rope completely through the skipping rope handle, forcing the sand from the handle and causing the first handle of the rope to meet the handle on the other side. By this time Shawn had crawled in the tire and Tod showed him his discovery. Shawn, using the second rope, imitated Tod's actions. Outside the tire, a birthday celebration was in progress (sand pail with sticks for the cake). Shawn stuck his head out the tire to sing "Happy Birthday." From the other side of the tire about four feet away from the tire opening, the researcher continued to observe Tod who took no notice of the celebration. He positioned the skipping ropes as shown below:



Shawn rejoined Tod, and unable to hear and unable to understand the new direction of play, the researcher initiated the following conversation:

Researcher: What are you doing Tod?

Tod: Well see here. These are the plugs for the water in the tire. When you pull out this plug (pointing to rope handle planted in sand) the water runs out here and if you pull out this one (pointing to alternate rope handle) the water runs out here. If you pulled out these (pointing to handles by Tod's end) all the water from Shawn's side would run down to my side and run out here.

Shawn interjected to say that there was no water in the tire but only sand. Tod stressed, "Yes, but if there were water!"

Friday, May 6th, 1977 - Day Care Centre

9:55 - Tod is seated at the table alone playing with a wooden building set. The set consists of various geometric shapes, nuts and bolts, pegs, wheels, a wedge, and a hammer.

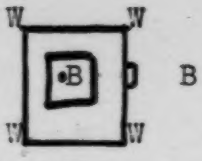
He informs the researcher: "I'm making a car." Screwing the wheels into the four corners of the large base rectangle, he adds, "And I'm screwing these things in." After screwing in the last wheel he wheels it back and forth along the table top. Next he places a second rectangle on top of the first. He hammers a bolt through the two rectangles joining them together. After hammering the bolt through, he picks up the structure and examines the underside where the bolt had emerged after he had hammered it through. He begins hammering the bolt from the underside back again when the wheel falls off.

Brian, his face made up like an Indian, dances over and putting his face directly in front of Tod's, he shouts "Hi yah!" Grinning Tod returns his greeting and continues to repair the wheel.

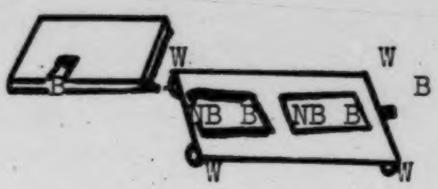
Screwing a bolt in the side of the structure, Tod informs the researcher, "This is a big car!"

A little girl begins crying in the climbing room. This room is visible from the games area by pulling out the cushions in the movable wall and peeking through the crawl holes. Going to the peek hole, Tod removes a cushion, and viewing the crying child, calls, "Teacher! Teacher!"

Returning to his structure, he hammers in a blue bolt and then returns to the peek hole to view a teacher who is comforting the weeping child. Returning to his structure, he screws a nut and bolt together. Next he hammers in a large red bolt.



#1



#2 complete car

W - Wheel
NB - Nut & Bolt
B - Bolt

A teacher arrives to begin her 10:00 shift. Brian, still doing his Indian dance, shouts, "Hi!"

The teacher reminds him that he is not to shout, "hi!"

Tod observes the above reprimand.

Brian, undaunted, dances over to Tod and shouts, "Hi!"

Tod angrily replies, "Brian, don't yell!"

Tod screws a nut and bolt together and continues hammering a red bolt. Then, his car complete, he drives it around the table to where Doug is completing a lego car.

Doug: I gotta new fancy car.

Tod: Mine's bigger 'n yours.

Doug: (lifts car into air) Mine's an airplane.

Tod: (Puts a green car on top of the red bolt - it topples off. He unscrews the bolts on the wheels).
Doug! Doug! Doug! (Tod shouts as Doug begins to play with his building materials).

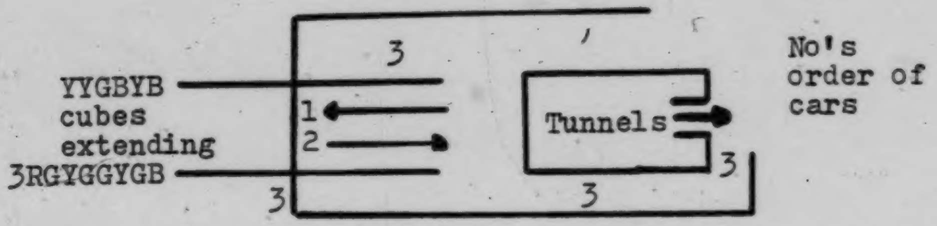
Tod places his car on the shelf. Picking up a green wedge, he uses the edge of it on the bolt to twist bolt of car on shelf. Picking up a handful of coloured cubes, he sets these on the table.

Shawn enters and begins to play with Tod's materials. Emphatically, Tod stresses: "Shawn, there's only supposed to be two people!"

Shawn continues to play with the materials and Tod calls out to the teacher, "Shawn's playing with me. There's only supposed to be two people!" (Doug is the second person).

(Teacher suggests Shawn play in another area).

Picking up an armload of coloured cubes, he sets these by the door which is near a large wooden structure which David and Michael have just finished building. Picking up a car, Tod kneels down by their structure, and advises David and Michael, "My car's bigger 'n yours." The boys continue playing, not acknowledging Tod's announcement. Tod, wheeling his green car in the driveway of their structure adds, "I got this one" (this car). Tod sends his car through the tunnels of the structure, then by hand, drives it back pushing it through the tunnels, then hand-drives it around circumventing the structure. Picking up a handful of coloured cubes, he extends the sides of the driveway. The cubes are lined up on both sides of the driveway, however, they are simply arranged in lines, not numerically equal (no. of blocks per side), nor ordered according to any obvious color pattern:



As Tod completes extending the driveway with the coloured cubes, he (proudly) tells David and Michael, "Look at your garage!"

Enter Doug.

Spreading the coloured cubes flat out along the extended driveway, Tod companionably tells Doug, "We like building houses."

Making his voice deep and joining in to the play with the coloured cubes, Doug orders, "George give that back!"

"Here George", answers Tod his voice equally deep.

Doug begins driving a car around the piles of cubes.

"George, you got your engine back in heat?" asks Tod watching Doug, still with a deep intonation.

Doug growls back, "Yea, George!"

Tod piles up a tower of cubes and notes, "This is a space rocket!"

"George! George!" calls Doug.

"What? Just say one George", replies Tod.

"You guys got three cars", complains David taking one of the cars.

"George?"

"What?" answers Doug.

"No, you have to say 'what George'?" informs Tod.

"George?" repeats Tod.

"George? George? George!" calls Doug.

"Don't say George!" orders Tod.

"George?" questions Doug.

"He's TIRED! George is tired!" replies Tod somewhat (irritated).

"George?" repeats Doug.

"George is tired! He's tired, I said!" retorts Tod (sounding highly irritated).

The boys continue building with the cubes and then Tod asks, "George?"

"George!" answers Doug (delighted).

David starts building with the boys.

"I saw a big bad wolf!" announces Doug seriously as he builds.

"I saw King Kong on the show!" returns Tod.

"Me too!" advises Doug.

Tod continues to tell the King Kong story in phrases about an airplane (researcher could not hear clearly).

"Can I play because I'm older 'n you?" pleads David (who is already building with the boys).

"And you can come to my birthday!" promises Tod answering David's question.

"George? George? George?" yells Doug in a very deep voice interrupting the conversation between David and Tod.

"Don't talk to George!" retorts Tod, then moments later backing his car up, Tod deepens his voice and announces, "O.K. I'm backing up! I'm bringing my car!" Referring to a closed wall on the other side of the structure, Tod informs Doug, "You'll have to go over there and open this garage!"

Doug moves the wall open and Tod adds, "Open both doors wide!"

"Brrrr Brrrrr Chchchch Brrrr!" intones Tod driving his car.

"Pretend . . . " begins Doug.

"Let's make a train track!" declares Tod (excitedly). Both boys search through the shelves looking for the train tracks. Tod asks the teacher if she knows where the train tracks are and stops to watch the teacher painting a child's face. Tod returns opening all the cupboards and checking all containers.

"Are you guys my buddies?" asks David following Tod and Doug.

"Yea, but we're looking around for the train tracks," replies a preoccupied Tod.

10:30 - "If I found a part of the tracks . . ." Tod tells Doug searching the room. He goes into the second room where the teacher is still painting. From a shelf he hauls down a container containing the train tracks.

"Does anyone want their face painted, before I finish painting?" calls the teacher.

Setting his train tracks down in the other room, Tod returns to the teacher, sitting down on a chair beside her for a "paint job".

As the teacher paints, she asks Tod, "Do you want to be a flower boy?"

Nodding his head, and screwing up his face and squinting his eyes, Tod holds very still while the teacher paints.

"You're starting to look like a flower child!" muses the teacher. She questions Tod as to why his face is all screwed up.

"It tickles!" explains a painted little girl watching Tod's new flower face emerging.

As the teacher completes his face, Tod screws up his eyes and face, and puckers up his mouth. As she announces that she is finished painting, Tod leaps up and dances around the table.

The teacher returns with the mirror. Grinning, Tod observes himself in the mirror. Then lifting up his bangs he gazes at the total effect. The teacher hangs the mirror on the wall and intently Tod admires himself. He opens his mouth and shows his teeth and then begins to talk to himself. Catching sight of the researcher in the mirror, he shows his teeth once more.

He dances back to pick up his train tracks. Stopping to chat with Chris, he strokes his face. Doug and Tod begin putting the tracks together. Chris and Wendy ask to play and Tod repeats the rule about only two people, thus not letting them join Doug and himself. As Tod continues to build, adding bridges, Doug sucks on the cars. Doug then commences driving a car along the finished tracks. Tod joins him, driving the car along the track, "Brrr Brr".

As the boys drive their cars along the track they commence calling each other "George" once more using their characteristic deep intonation. A segment of the conversation follows:

Tod: George?

Doug: What?

Tod: You're in the wrong track!

Doug: Yikes there's a WITCH!

Tod: No, there's a witch on this one! (his track not on Doug's).

Tod continues talking to himself in a low voice calling himself "George" and then answering his questions.

Christopher, playing a few feet away is eager to join them and loudly announces, "Just to say I can't play, I'm not going to let you play with me!"

The boys continue driving their cars over the tracks which extend into bridges. As they drive they continue to discuss the whereabouts of the hidden witch, whom they conclude is hidden in the valleys (don't use term valleys) but say she's under the bridges.

10:50 - Leaving the train tracks the boys go to the carpentry area. Tod gingerly pats his palm along the groups of partially pounded nails on a piece of board. Holding himself as though he has to go to the bathroom, Tod busily continues playing with the car and wood. Finally, he hands a car to Doug and says, "Hey you take this one (a car) to the bathroom and I'll take this one (a car)".

As the boys leave for the bathroom, a girl tells them, "All the kids should have on Indian hats because we're going to eat on the ground!" Tod gives his instructions to the teacher who is making Indian hats for the children. She follows his directions. Once his Indian hat is on, he shrieks, "Pow wowwow" and "pow wows" up to several children dancing and laughing. Then, still carrying his car, he leaves for the bathroom.

As he returns the teachers announce that it is time to tidy up. Tod ignores this, joining Tonia; they pow wow around the table. A teacher reminds Tonia to help tidy but Tod dances into the other room. A second teacher reminds him to help tidy. Taking a car, he drives it through the air, "Brrr Mmmmmmnnn Brrrr . . . "

Tod's mother arrives and Tod is taken to another room to have the paint cleaned from his face as he has a doctor's appointment. (11:18)

Tuesday, May 10th, 1977 - Park II

9:45 - The children have just arrived on the playground. While the children cluster around the teacher while she distributes the supplies, Tod races over to large tire area. He crawls through the large tire and emerging from the other he picks up two empty pop tins. Scooping up sand in the spout of one tin, he pours the sand through the spout of the other tin. He shakes it vigorously making a noise.

"Can I play?" asks Wendy sitting down beside him.

"Yup!" answers Tod.

"Can I play?" asks Doug.

"Yes you can," replies Tod.

Doug has a shovel and a pail. "Give me that shovel for a minute," requests Tod.

Tod scrapes up sand with the shovel and using the side of the shovel tries to pour the sand through the pop tin hole. Meanwhile Wendy is scooping up sand in her hands and filling the tins (Wendy also has two pop tins).

Tod runs over to the supply carrier. He tosses the books from the carrier and sorts through supplies. Wendy comes over to watch him.

"Can I borrow this?" (a pail) asks Serge.

"No, you have this one," (a pail) replies Tod giving him another pail.

Tod takes two pails from supplies and shakes sand from the pop tin into the pail, banging the pop tin against the side of the pail as he continues searching through the supplies. He picks up one of the books he'd tossed on the ground and looks at the back cover. He sits down by the researcher, holding his book:

Researcher: You have a book, Tod. What is that book called?

Tod: It's called, "The House" (There is a house on the back cover. However, the house is one of several pictures).

Tod pages from the back to the front of the book. He studies pictures of plants in several stages of growth.

Tod: They are planting flowers.

Tod turns to a page which is glued together and thus he can not freely open it.

Tod: Hey this is stuck!

Researcher: Is it stuck? The pages are glued together, are they? I wonder if you can get them undone.

Tod tries but begins to tear the pictures. The researcher shows him a method which would not hurt the pictures and guides him as he loosens the pages.

Researcher: I wonder how they got stuck.

Tod: It must be somebody stucked 'em on!
Look, that looks like Shawn! (points to a picture of a group of children).

Researcher: It does look like Shawn! What are they doing?

Tod: They planting! (picture of children surrounding a pailful of soil).

A plane passes loudly overhead but Tod stares intently at a picture of marbles in a container:

Tod: Look at those candies! (marbles)
How did they make those kind of candies? You can't make that kind.

Researcher: Why not?

Tod: You can't make it. You can't make some candies like that!

Enter Pavlov who shows researcher his new sandals.

Tod: And that's the end! (closing book to front cover)
Look at the ladybug! (points to picture of ladybug on the front cover).

Researcher: Yes, there are pictures of two ladybugs.

Tod: What does this say? (referring to pictures on front cover).

Researcher: There are no words only pictures, so I can't read it.

Child: This name is flower! (points to picture of flower).

Tod: And ladybug! (pointing to ladybug).

Tod: (points to Pavlov's sandals) Boys don't have sandals!

Pavlov: Yes they do!

Tod: No they don't!

Pavlov: Yes they do!

Tod races across the field suddenly. With his hands on his knees, he stoops over looking inside an orange container. The container contains various cartons, tape, paper, and wool.

Tod walks over to a nearby tree where a group of children are touching the tree. "Why don't the girls kiss the boys!" shouts one little girl.

The children scatter racing away from the tree. Tod goes "tearing" after them clear across the playground. He chases after them as they spread out but then stops at the large tire area.

Kneeling by tire, he picks up a pop container which he begins filling with sand, pouring it back and forth into a second pop tin. He chats briefly with Serge who is in the tire. Looking up, he studies Jennifer climbing along the top of the tire. Tod climbs up the tire as Jennifer slides down and asks researcher if she can write her name in her field book. Tod is seated on top of the tire with four other children.

"Superman!" calls Tod spreading his arms expansively. He is seated with his feet dangling over the edge of the tire.

"Superman!" calls Doug seated on top of the other tire. He imitates Tod's spreading of his arms.

"Superman!" Tod and Doug call back and forth to each other always accompanying "Superman" with the expansive spreading of the arms gesture.

Tod leaps off the tire and picks up a broken dishpan. Doug runs after Tod. Tod flips the dishpan over his head still calling "Superman! Superman!" Doug continues running after him. Tod picks up a skipping rope and holding on to the end, he drags it along behind him as he runs.

Holding the end of the skipping rope, he lassoos it wildly into the air. He winds the rope into a knot and crawls into the cement tunnel. Christopher and Doug follow in after him. 9:50 A.M.

10:00 - Holding the rope and with his elbow in the groove of the tire and bracing his knees, Tod crawls up the tire. Doug crawls up the other side of the tire. Now both are seated on top of the tire.

"Hey you have to get up here, too!" calls Doug to the researcher.

"Not today, Doug. I don't think I will today," replies the researcher.

"You too big?" giggles Doug.

"Am I too big?" answers the researcher.

Seated on top of the tire, Tod holds end of rope and twirls end lassoo style, then drops rope leaving it dangling in the air.

"You got it?" calls Doug excitedly watching Tod's dangling rope.

"I have to drop it in the water to get it!" explains Tod to the researcher.

"Oh is that the water?" asks the researcher. (The water is the ground below the tire).

"I saw a big puppy, Tod! I saw a big puppy, Tod!" squeals Doug excitedly jumping from the tire.

Tod draws rope up and kneels on tire. He tosses the rope over the side and draws it up. Doug comes over to Tod's dangling rope to see what Tod's catching.

A little girl still on top of the tire calls down to Doug, "I'm the King of the castle. You're the dirty rascal!" A game of"King of the Castle" starts between Doug and the girl.

"We know that!" interrupts Tod referring to the "King of the Castle" verse.

Holding on to the coiled rope he, passes the rope over the side of the tire and lets it drop to the ground. All of a sudden Tod screams, "I've got it! I've got it! I'm gonna catch it! A shark! I'm gonna catch a shark!" Tod rolls on to his tummy and with his feet dangling over the edge of the other side of the tire, he pulls and groans with the weight of hauling up the shark.

"Watch out the shark's in the water!" shouts Tod to Doug and the researcher below.

Doug starts to crawl up the tire.

"Get down! Get down!" shrieks Tod to Doug. "Come here! O.K. Swim! Swim! Swim! Swim!" he calls urgently to Doug.

Doug is swimming in the sand (the 'water') and Tod has lowered the rope down. "Can you see the shark?" calls Tod to Doug as he dangles the rope down by Doug's face.

Doug begins squealing and swimming.

"Are you safe?" asks the researcher extending a hand from the "shore" to Doug. Huffing and wriggling he nods and lets the researcher pull him in.

"How are you coming with that shark?" the researcher asks Tod who is dragging up the shark.

"I try to get the shark up!" answers Tod pulling. "Yup, I got him now!" (Tod shows the researcher the shark, a coiled skipping rope).

Tod slips off the tire and picks up a hoe. He climbs once more up the tire and ties the skipping rope around the digger base of the hoe.

"What's that for?" asks the researcher referring to the tied hoe.

"That's for to bring the shark up!" answers Tod. "You watch me, O.K." Holding on to the rope, he drops the hoe. Tod slips down the tire and picks up the hoe and rope. He carries both of them, the hoe and the rope, into the tunnel and tries to tie the rope tightly to the hoe. Emerging to the edge of the tunnel, he asks the researcher: "Could you tie it. It is broked!"

Tod gives the researcher directions for tying the rope to the hoe, explaining where to tie the bow.

Hanging on to the hoe, Tod twirls the rope into the air. "It flies! It's a bird!" calls Tod to the researcher. Time: 10:05

Interviewing Tod:

Researcher: Tod tell me, what were you doing on the tire?

Tod: Catching a shark!

Researcher: Did you catch him?

Tod: Yea!

Researcher: What did the shark look like?

Tod: Uh, it looked like meat.

Researcher: What did you do with the shark when you caught it Tod?

Tod: Uh, it slide right down.

Researcher: It slid right down?

Tod: Yea, into the water!

10:07 - Tod is seated in the large tire area. He winds the rope tightly around the hoe, tying a little knot at the end. "Hey, now it's a songbird!" calls Tod holding up the hoe to the researcher.

Biting on the edge of the rope which is wound around the hoe, Tod watches a little girl who is searching through the grass for a ladybug which has escaped from her pail. Sucking on the rope he watches a little boy close by who

has a ladybug which crawls on his hands. (10:09)
10:10 - Tod is seated watching a garbage truck rumbling down the road. As he watches, he unwinds the skipping rope from the hoe. Picking up the hoe, he scoops sand on to the digger portion and precariously lifts sand and dumps into the little pail. He continues filling pail.

"Doug!" Tod calls. "Come! I'll show you! Come I'll show you!"

"After I finish," answers Doug who is filling up his sandpail.

Doug watches Tod and offers Tod his shovel. Tod rejects Doug's offer, saying, "No, you gotta use this shovel" (Tod refers to hoe as being a shovel).

Tod crawls into the cement tunnel; Doug follows. Doug, using his shovel starts making a sand castle on the interior of the tunnel.

"Doug!" Don't do that!" calls Tod who is frantically scraping the sand from the interior of the tunnel towards the entrance. (To scrape the sand, Tod uses the hoe like a rake). A group of children are playing at the other end of the tunnel with the sand. Serge tells Tod to leave the sand alone. Tod tells Serge to move, that he is cleaning his house. Serge replies, "I don't care!"

"You don't care!" shrieks Tod, pushing Serge as he scrapes the sand. Serge knocks Tod to the ground (tunnel base).

Tod starts to cry, grabbing the hoe, dragging it along the ground. Goes to teacher and tells her his problem. He wipes his eyes still holding his pail and his "shovel" (the hoe). He wanders back to the cement tunnel, banging the hoe into the ground. He returns to the tire area, standing by the teacher and starts scraping out a hole, then drags hoe all along the edge of the tire area.

(10:15)

Because the researcher was unable to hear the interaction which occurred between the teacher and Tod, the researcher then interviewed the teacher:

Researcher: Can you remember exactly what Tod said when he came to you.

Teacher: He said Serge hit him.

Researcher: Did he say why Serge hit him?

Teacher: No, he didn't. I asked him if he could go and talk to Serge about it.

Researcher: I see. But then he went back to the tire area so he didn't talk to Serge about it.

(10:16) Tod is back inside of the tunnel, Doug with him. He is scraping the sand from the bottom of the tunnel. Doug is seated at the end of the tunnel with a popsicle stick, scratching in the sand.

"We're supposed to clean the house!" Tod informs Doug. Doug doesn't answer but continues scraping. Tod repeats, "We're supposed to clean the house!"

Tod continues to clean the house. Now he scrapes with the edge of the popsicle stick. Then he picks the sand up with the hoe base and balancing it on the base, he dumps it into the pail. He continues to pick up the sand from his pile and lift it into the pail with the hoe. Then stooping down he takes his hand and rubs it in circles round and round through the pile (the sand he gathered together after cleaning out the tunnel).

"Doug, do this!" Tod instructs, demonstrating how to rub round and round with his hand. "And then we can clean the house," explains Tod.

A little child crawls into the opposite end of the tunnel. "Get out!" Tod screams angrily continuing to scrape.

The child asks, "Can I come in?"

"No, no, not until our house is clean!" answers Tod scraping the hoe back and forth, back and forth, along the tunnel edge. Shawn sits Indian style at the end of the tunnel waiting and watching while Tod cleans. Meanwhile, Doug cleans with the edge of his shovel.

Another little boy enters the tunnel and Tod tells him he's cleaning the house. The boy sits down inside the tunnel and Tod and him begin tussling, the boy kicking Tod. Another little girl crawls into the tunnel. Tod **whimpering,** stomps out of the tunnel dragging the hoe and taking the pail.

Outside the tunnel, a boy is crying because he lost the ladybug which was inside his pail. Apparently the ladybug disappeared when he had a tussle with another child over ownership of the pail. Tod and Doug help him search for the ladybug.

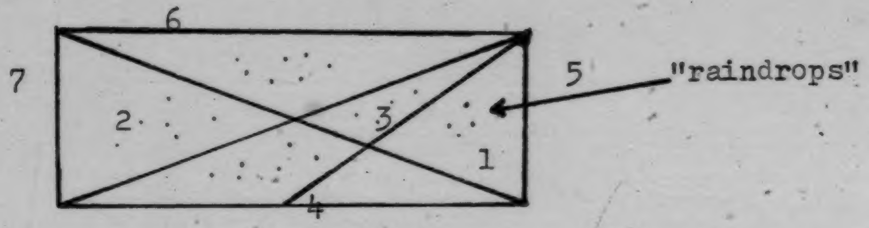
By the side of the tunnel, Tod begins scraping the surrounding sand into a pile with the hoe. Then,using the base of the hoe, he balances a load of sand and dumps it into the pail. He continues to fill the pail, leaning his face on the edge of the hoe. Now gripping the handle of the hoe by his teeth, he raises the hoe until it is perpendicular to his body. Now holding on with his teeth he tries to load and lift the sand on to the hoe.

Meanwhile, Doug has knocked over Tod's sand pail and stepping on the side of the sand pail, Doug tries to boost himself up onto the cement tunnel. Tod stands up and tries to lift Doug on to the tunnel by trying to lift his waist. "I can't lift you!" Tod says.

"I have to use it" (the pail), informs Doug, pouring out the sand. "Now push me up!" says Doug stepping on to Tod's sand pail.

Wednesday, May 11th, 1977 Day Care Centre

Tod is seated at a table painting with a group of children. In the centre of the table is a flat container containing orange and yellow paint. He holds the paint brush between his forefinger and thumb. He strokes the yellow paint diagonally across his page from the top left corner to the bottom right corner. His second stroke is from the top right corner diagonally across the page to the bottom left corner.



The numbers indicate stroke order
in painting.

Shelley begins to sing, "It's raining, it's pouring, the old man is snoring." As she sings she drops droplets of paint across her picture, raindrops. Tod and the rest of the children at the table join her in her song. Next the chant is modified to, "It's raining, it's hailing . . ."

Tod strokes his third stroke from the right corner to the bottom of the page. Repeatedly Tod sings, "It's raining . . ." as he takes the brush and drops droplets of yellow paint over his page. Now he creates a border on his picture, starting at the bottom, then the side going in a counter-clockwise direction.

An assistant observing Shelley's paper says, "Look you're making drops all over." "It's raining," explains Shelley continuing to create the droplets. With renewed vigour the children begin once more singing, "It's raining . . . "

The assistant asks Tod what he's making and he replies "a water fountain".

The children begin talking about the rain and Tod and Doug make a sound like falling rain with their tongues, "tch tch tch . . . " Shawn begins to make the sound of the old man snoring.

Tod explains his water fountain to Shawn: "It's going around and it's going to rain! Tod does the "It's raining" routine three times solo.

Tod leans over and points out to Doug, "There's an 'o', pointing to the 'o' in the name "Doug" which the teacher has put on his paper.

After making the raindrops, Shelley began folding her paper and opening it (ink blot test fashion). She seemed very excited by her discovery and shared this with Shawn, Tod, and Jason.

Tod begins filling in large triangular areas on his page with orange paint, singing, "It's raining, it's snowing," a new variation to the song.

Tod sings out, "Old MacDonald ate a banana!"

Shawn giggling revises, "Old MacDonald ate a banana, fall down and broke his penis."

Tod emphatically says, "No! Old MacDonald ate a banana."

"Yea, ate a banana, fall down and broke his penis," repeats Shawn matter-of-factly.

A child calls out, "Humpty Dumpty sat on a wall, down came his pyjamas!"

The children begin talking about banana penises (9:53).

9:53 - Shawn excitedly shows Tod his new shade of orange.

"How did you get it, Shawn?" asks the researcher.

Taking his brush he says, "a bit of orange," and dips it in the orange paint, "then a bit of yellow," and dips it in the yellow paint.

"You made a new colour!" exclaims the researcher.

Tod imitates Shawn's experiment, also creating a new shade of orange. "Look what I made!" he calls to the researcher and Shawn.

"Oh, wow! A new colour!" exclaims the researcher.

"I'm folding mine up." announces Shawn as he folds his paper.

"And you're folding yours too, to see what happens."

Giggling Shawn opens his paper and joyfully calls, "Oh, look it!"

"Oh boy!" exclaims the researcher. "And what do you have, Tod?" (Tod had also folded his paper).

"WOW!" exclaims Tod seeming very surprised.

"What did you make?"

"That!" answers Tod, beaming as he looks at his painting.

Tod takes paint and begins making his fingerprints on his page. "Look what I made!" he shouts to Shawn excitedly. Now taking orange paint on his fingers, he makes dots all over his page.

The assistant notes that Shawn has painted over his name. She rewrites it and asks him not to paint over his name. Tod has also painted over his name so she rewrites his name, but on the other side from where she had printed it earlier.

Watching her write his name, Tod observes, "It wasn't like that!

"Well I can't find where it was," answers the assistant.

"No, that's the wrong name!" he remarks positively looking at his name on the other side of the page.

"Don't touch my things!" he says setting his painting on the shelf.

He reaches for a yellow truck located high on the shelf. A little girl takes the truck.

"No!" Tod yells as she begins wheeling the truck back and forth. (9:56)

10:00 - Tod has a wooden puzzle composed of various abstract puzzles. "It can't go in. It can't go in. It can't go in!" he remarks sadly to the researcher as he turns the puzzle about trying it from a variety of different angles and with other pieces. The puzzle is about a third done. When he is unable to complete the puzzle, he takes the entire puzzle apart. He puts the initial pieces together once more.

He begins banging the puzzle piece down against the table while staring at the remaining puzzle pieces.

"What's the trouble, Tod?" asks the researcher.

"I can't do it!" answers Tod sounding sad and discouraged. He continues banging the block down on the table.

"Oh, I can! I can!" excitedly and confidently calls Doug who is playing beside Tod.

"No, cause this is broken, Doug! It's broken! Yes it is! See!" He shows the puzzle piece to Doug. (The puzzle piece did look chipped).

"Someone broke that piece!" agrees Doug.

"No one take this out!" commands Tod. "Cause it's broke!" He piles the pieces up and leaves them on the table.

"I'll do it!" Doug comes bounding over to the puzzle.

"You can't! It's broken!" stresses Tod.

Tod making a brrrrr sound, drives a large yellow bus around the table, by pushing it.

"What are you doing, Tod?" asks Doug, who is having trouble with the puzzle.

"Brrrr Brrrr! answers Tod.

Tod runs over to box with numerous cylindrical blocks which contain holes and he sorts through these. Doug joins him.

Tod returns to the bus and begins playing with Michael who is also pushing a vehicle and creating the sound of the vehicle.

Tod picks up a door from another set and puts it on top of the bus. It falls off and Michael put it on his vehicle. Michael parks his vehicle and Tod chattering to Michael, parks his vehicle beside Michael's.

Tod picks up a wooden family puzzle consisting of a man, a woman and two children, a girl and a boy who are between the man and the woman.

Lying on the floor, he examines the man and woman puzzles which have tumbled out. Picking up the man and woman, he bangs these in an upright position on the floor. Boy tumbles out and he tries to fit it into the puzzle but puts it in upside down (it doesn't fit).

With an exaggerated whining intonation, he repeats "Mommy . . Mommy . . Mommy . . .," he tries to fit the woman in, but it is backwards, turns it around and gets it in properly.

He takes the boy and woman out, standing the woman up beside the little boy. Softly he's talking, providing conversation between the man and the little boy. He puts the little boy in the slot for the woman. The man and woman remain upright. The following conversation takes place, Tod providing a different intonation for each character, the intonation being exaggerated and unlike Tod's natural voice:

Boy: Mommy . . Mommy . . (whining)
Mom: What?
Boy: Daddy . . Daddy . . (pause) Daddy . . Daddy (whining)

Dad: What?

Boy: I want tah drink of milk.

Enter Doug who has been watching Tod's play with the family puzzles:

Doug: Why don't you ask the mommy?

Boy: Mommy, Mommy . . .

Mom: What?

Boy: I want tah drink of milk!

Mom: O.K.

Boy: Thank-you!

Doug: He don't belong in that! (boy doll in mother's slot in puzzle).

Tod: He goes to mommy's place.

Doug: Why?

Tod: The baby loves the mommy.

Doug: Oh!

10:07: After playing with the family, he returns to the bus. There's a tussle with Michael over who should get the jeep affair. The window has fallen out of the door. He puts the door on top of the bus and begins singing.

Across the room spots small jeep, grabs it and calls, "Doug! Doug! I found your jeep!"

Squealing with delight Doug cries, "Did you? You found my jeep!"

"Doug! Doug! I found you another car!" (Tod sets the red car on the table).

Doug carrying his jeep excitedly runs over to the table and gets the red car. "I got two cars!" squeals Doug. "You got longer one 'n I do!" notes Doug looking at Tod's car.

"And I gotta bigger car!" states Tod.

"And me, too!" stresses Doug.

"And George?" asks Tod changing his intonation to make it deep.

"What?" replies Doug and Tod in unison.

"No!" replies Tod irritably. "This George!" (Both Tod and Doug have cars which have couples sitting in them. Tod points to the driver of his car as being "this George."

Tod conducts the following solo conversation changing his intonation for both parts:

"George?"

"What?"

"You bring me ah ticket?"

"Uh, O.K.!"

"Brrummmm Rmmmm Brrmmmmm . . " sounds Tod as he pushes the car around. Doug joins him but then Doug's car is unable to pass because Tod's car blocks the road.

"Dis car not backing up!" squeals Doug sounding very surprised.

"George?" growls Tod in his deep George voice.

"What?" answers Tod as George.

"George?" repeats Tod.

"What?" answers Tod.

"George? George? My car not backing up?"

"No, that's mine!" stresses Tod. (Tod's car blocks the road of Doug's car).

Doug hops over and picks up another car. "I got three cars!"

Tod answers, "I got three cars, too!" (reaches for a third car). "Both got three cars!"

Doug starts to drive Tod's bus.

Tod grabs for the bus stating, "Oh, that's my truck. That's my big truck. You know it's mine!"

"No! It's mine!" replies Doug.

"No! My baby's in there! My baby's in there! My baby's in there! (getting louder all the time; Tod pauses) My baby's in there! See him! Right in there!" Tod points to the interior of the bus which is empty. (As Tod argued that his 'baby was in there' he sounded close to tears during his last plea and then almost as a last resort pointed out the exact location of the baby).

Summary: Tod and Doug then began making the sound of the vehicles they operated. Tod referred to the bus he operated as being a garbage truck. He parked it blocking Doug's car. When Doug asked him to move it Tod began the solo George routine explaining that the truck couldn't be moved "because the runner was broken." Doug became interested in the researcher's tape-recorder which was close to the area in which the boys were playing. Doug asked the researcher to turn the tape recorder on and Tod told Doug that it was already on. He then bent over, watching the tape turn, and said, "Yup, it's on."

Doug was given permission to use the climbing frame. Tod watched Doug wistfully through the pillow peek-holes in the dividing wall.

A boy in the climbing frame area tried to stuff the pillows back in the wall, squashing Tod's nose. Tod screamed at him and the boy discontinued trying to stuff the holes. Tod then threw Doug a car while he was on the frame. Another boy retrieved the car and Tod climbed through the peek hole to grab the car from the boy and personally deliver it to Doug. Then Tod began playing on the climbing equipment for about two minutes until he was reminded by a teacher that he did not have permission to be in this room, that the rule was only four children at a time.

Tod returned to his own room and resumed playing with the train tracks and a small car. He built several bridges. As he built he talked and answered George who was building the bridge. However, the George interlude only lasted about one minute. Tod seemed very distracted, checking on the activities in the climbing frame room about every two minutes.

Then, taking two small cars, Tod told the researcher that he was going for a drink (in the hall).

Three minutes later the researcher found Tod playing with the two cars in the fountain. As he played, he talked to himself. The following interaction occurred:

Researcher: What're you doing Tod? (the two cars are in the water fountain).

Tod: These cars are going to get wet. (Tod walks his fingers along, over the top of the metal fosset, and down into the drain area). Here come the men.

Researcher: Oh, your fingers are the men.

Tod: Yup, they're going to get wet. (Tod's fingers still retain some of this morning's paint).
Oh no! This car got stuck! (the car is directly under the flow of water).

Researcher: Where did it get stuck?

Tod: On the water fountain!

Researcher: Oh no!

Tod: And then the water stopped! (turns the fountain off and then starts the fountain once more; both cars are near the water flow).

Hey! See it's coming right up! It's coming right up! (covering up the drain with his hand).

Oh no! It's coming right up! (the water rises higher in the fountain basin, about half way up the car).

Oh get away from the water fountain!

I can't! I'm stuck!

George?

What? (Teacher Intervention - 10:35)

Thursday, May 12th, 1977 - Park II

10:33 Tod has just arrived on the playground. He greeted the researcher then stooped down to see what Ivan was doing. Ivan informed Tod that he was cooking (had some shiny paper mixed with sand in small container).

Tod races over to a playground water drain where Mark, Jennifer, and Doug are plucking kleenex from a near-by kleenex box and pushing kleenex down the drain (between the rungs of the city drain).

The researcher asked Tod why he was putting kleenex down the drain. Tod answered, "'cause I'm cooking supper!"

Grabbing a kleenex, Tod races around the bushes, leaving the kleenex.

Returning to the supply area, he picks up a ball and races around a pole with it. Races around by the bushes, continues running (when Tod greeted researcher he told her he liked to run 'cause he got good exercise). Doug tails him. Tod crawls into first cement tunnel, around to the back of the second cement tunnel and ducking down runs through tunnel.

Doug continues tailing Tod. Tod calls back, "Doug, let's go around!"

Tod races over to large tire area. He stretches his body, grabbing hold of the tire grooves and tries to pull his body up the front of the tire where the four tires intersect. Unsuccessful, he goes to the side of the tire and tries to pull himself up. (Tod normally climbs the tires with ease; however, he appears to be wearing new shoes).

"Tod! Tod!" cries Doug who has reached the top of the tire. "Go up on this one!" Doug advises pointing to the third tire.

"I can't get up!" (a very frustrated Tod tells Doug).

"I'll help you!" cries Doug enthused and confident.

"No!" insists Tod firmly. He puts his knee in between the tires and stretches his body up. He runs around to the other side where there are four intersecting tires.

Doug continues to cry, "I'll help you, Tod!"

He gets his foot stuck and twisted in the crack. Doug laughs (not realizing that Tod's foot is twisted).

Tod releases his foot and using the four intersection points of the tires and holding on to the grooves, he forces his way up.

As he successfully climbs the tires, Doug cheers, "You made it! You made it!"

"You were on a whole lot! (of tires) observes Shawn who is making a tunnel with his body by balancing with two hands on one tire and bracing himself with his two feet on the other tire. "Hey look, I can make a tunnel!" notes Shawn.

"Hey look!" observes Tod finding a hole in the tire on which he is kneeling. He peeks into the hole, then sits up, sticking his forefinger into the hole.

"I see your fingers!" shouts a little girl below as Shawn plunges his finger through the hole. Lying on his tummy, Tod checks to see who is inside the tire. Still on his tummy, Tod slides down the tire, tumbling on to the ground.

Tod races over to paint brushes and picks up a container out of the box and wears it on his head (cottage cheese container in art supplies). Doug does the same. The wind rises and Tod's "hat" blows off. Tod declares, "Ah, mine blow off!"

Tod scoops dirt into the paint carton singing, "Ahrahrahrah! Hmmm Hmmm Hmmnnn!"

Doug joins singing, "Hmmmnnn Hmmm!" but higher than Tod.

"Hey a plant!" exclaims Tod pulling out a dual piece of quack grass. "Hey, all those plants are going to die!" observes Tod pointing to the sprouts growing about the lilac bushes.

Filling his container with mud, he turns it upside down on the top of his head.

"Hey!" shouts Doug gleefully imitating Tod.

"Put them down!" a teacher calls. "Those are the paint containers. They are not for playing!"

Tod and Doug bang the paint containers, emptying the damp dirt.

Tod races over to tire area, running right around it, then climbing into the back of the tire.

Giggling, Doug follows him in, backing into Tod and shouting, "Hey!" gleefully. (Researcher could not see what they were doing in the tire).

They move back and forth in the tire, kicking the sand. "Come on!" screams Tod running from the tire and crawling into another one (10:44).

Tod crawls from the second tire and followed by Doug, crawls into a third tire. Both Tod and Doug have sticks.

Tod covers his stick and then stands stamping it down. He tells Doug that ? is hidden.

Tod stretches himself up to the top of the tire from the inside. There are a lot of children crowding around the tire.

Looking around Tod says softly to Doug, "Everybody trying to look at us. Come on! Let's get to zero!"

Tod leaves the tire and Doug tells researcher as he leaves the tire, "We hid a potato in there!" (the stick). (Because of Tod's comment regarding "everyone looking", researcher did not follow Tod closely for awhile). (10:48)

Tod sits inside the cement tunnel drawing with a stick in the sand. On top of the tunnel are a group of little girls, rocking and singing with their teacher.

Tod ducking, runs out of the tunnel, still with his stick in hand, looking at the singing girls. Tod, standing, on his tiptoes with his body braced against the tunnel, smiles up at the face of the singing teacher.

Squatting down close by the teacher he digs in the dirt. He tastes a bit of sand, throws it away. He carves with his stick in the dirt, while watching the teacher. He uses the stick similar to a bulldozer, using the side of the stick to pull the dirt towards him. He stirs the stick through the soil.

A little girl on top of the tunnel calls to the teacher, "I want you! I want you!"

Tod remains at the teacher's feet, looking up at the teacher and periodically stamping the end of his stick into the ground. (He seems to be observing all of the teacher's actions). He scratches the stick around in circles.

Kneeling, Tod drills a hole into the damp sand by pounding the end of the stick into the ground. He looks around the playground.

He races across the field towards the sidewalk where his teacher is walking with two children. Tod follows them as they walk along. He stares after them as they leave the playground. Doug has followed Tod and Serge and Doug talk with Tod. (The researcher remains in the distance).

Tod follows after another teacher who redirects the children back to the playground (10:53).

(10:58) Tod has brought Doug back to the identical place that he was before, by the tunnel. Tod pounds holes poked into the sand with the point of his stick. Doug watches. Tod lifts up some damp sand and rubs it into his shirt over his tummy. Handing Doug the stick, he asks Doug to pound holes for him.

Doug remarks that it is hard (pounding holes into the sand with the stick).

"You do the work and I do the work, O.K.?" Tod tells Doug. (Both have sticks which they use for pounding the sand).

"O.K.!" shouts Doug excitedly.

"Hurry, before our lunch get cold!" shouts Tod pounding with the flat of his hand and the point of a stick.

"Fast! Fast! Fast! Fast! Fast!" shouts Doug pounding his stick furiously into the ground in time to shouting "fast!"

"OH NO! Oh no! Our supper's cold!" exclaims Tod peeking into the tunnel. "Our supper's cold, now!" (pause) "Oh our lunch is cold! Our lunch is cold!" repeats Tod as if very distressed.

"Let's go see it!" suggests Doug, getting up and looking into the tunnel.

"It's burned out!" confidently notes Tod at the tunnel entrance.

"It's burnin'! It's burnin'!" shouts Doug.

"No it isn't! Let's go see!" exclaims Tod, looking into the tunnel.

"It's burnin!" announces Doug with a piercing scream.

"Yea! Yea!" mutters Tod as they both walk into the tunnel.

They both crouch down, then move to the other side of the tunnel.

"Leave those boots!" screams a girl from on top of the tunnel as Doug hauls her boots into the tunnel.

Tod stands outside of the tunnel on the other side watching the girl.

"Put those boots outa there!" repeats the girl shouting.

Doug moves the boots deeper into the tunnel, laughing.

"No, no! Ah ah!" Tod tells the girl on top of the tunnel.

The girl slaps Tod on the head. "Uhhh!" bellows Tod, screwing up his face. (He doesn't seem to be truly crying, but merely making the noise of crying).

Tod walks off carrying his stick. "I'm telling on you!" he defiantly calls back to the girl with no trace of tears. He speaks with a teacher and Doug has followed Tod over. The teacher returns with Tod, patting Tod's head as Tod points to the girl on top of the tunnel.

The teacher draws the children together; the girl tells about her boots; the teacher asks Tod, "how come?" (could not hear conversation clearly).

As Tod begins carving into the ground, he explains to the teacher, "I'm cutting a hole!"

Meanwhile, Doug emerges from the tunnel with the boots. "How nice of you to get them!" the teacher commends Doug.

"Could you lift me up?" Tod asks the teacher, referring to the tunnel (a second tunnel, not the tunnel on which the girls are sitting).

The teacher lifts Tod up on top of the tunnel. Grinning, Tod calls down to Doug, "Doug, I'm bigger than you!"

Looking down, Tod orders, "Doug, bring that stick!" Doug brings him the stick. "Yea, it's mine!" notes Tod examining the stick.

Tod asks the researcher to lift Doug up on top of the tunnel. The researcher hesitates asking how Doug is to get down if he's lifted up. Doug and Tod explain that they can easily slide off. The researcher lifts Doug up but remains close by him as he's much smaller than Tod.

The boys straddle the tunnel. "Hey a big horse!" notes Tod. Doug bounces as if riding a horse.

"Hey could you hand me that changer?" Tod asks Doug who is still riding the horse. Doug hands Tod his stick and Doug stands up beside Tod who remains seated.

Tod wiggles the stick at his waist. "Here I'll change it to two apples. You get one and I get one." Tod hands Doug an apple.

"Cheese! Two cheese! One for you! One for me!" Tod hands Doug the cheese. Both start to eat the cheese.

"Macaroni! Two macaronies, O.K.? One for you. One for me!" They eat the "macaronies". "There, that's better!" notes Tod.

Tod stands on top of the tunnel, looking down.

A girl tells the researcher that "he can't get up" referring to a very young child who wants to sit on top of the tunnel.

"Ahhh! He can't get up!" croons Tod with (mock concern).

Now, lying down on his tummy, Tod peaks down into the tunnel. Doug lies down on his tummy, edging his body up to the end of the tunnel and peaking into the other side of the tunnel at Tod who is peaking in from the other end.

Tod and Doug both look at each other from opposite ends of the tunnel, looking through the tunnel at each other. They laugh and giggle, periodically raising their bodies to look and laugh at each other from on top of the tunnel. (Doug is thoroughly enjoying himself, calling over to Tod through the tunnel).

Giggling, the boys call back and forth, "Hey Tod! - Hey Doug - Tod - Doug!" through the tunnel.

Tod sits up and tells Doug, "Hey pretend you go there and I go there and see if you can see?" (Tod and Doug shift their bodies over to opposite sides of the concrete structure, referring to the sides of the tunnel. (Of course they can't see through).

Tod and Doug return to looking at each other through the tunnel.

"Hey, go like this!" suggests Tod putting his foot over the edge so that it hangs down inside the tunnel.

Doug hangs his foot over the edge of the tunnel.

"And you leaves your foot down!" cautions Tod. Tod, lying on his tummy leans forward peaking into the tunnel. "Ayow!" shouts Tod gleefully, looking through the tunnel at the foot.

Dout giggles, continuing to hang his foot over the edge.

"Hey, you look down and you see my foots!" Tod tells Doug. Tod holds his feet down the other side of the tunnel.

Doug giggles.

Lying on his tummy, dropping and lowering his feet, Tod tells Doug, "O.K., look down!" (The game continues for about a minute, with Tod alternately raising and lowering his feet).

Tod crawls over to Doug on the other side of the top of the tunnel and begins growling and showing his hands as if they were claws. Doug joins him, clawing and growling. Children walk by and the boys increase their growling, growling louder than ever.

"I'm the big bad wolf!" announces Doug.

"And I'm the big bad wolf, too!" agrees Tod.

Tod stands up on top of the tunnel and calls to Doug, "Slide down the chimney! And pretend that's a house!" suggests Tod, pointing to the large tire area.

Roaring and growling, and sliding down on their bottoms, Tod and Doug tumble off the tunnel and race to the large tire area. Tod carries his stick.

A teacher calls the boys together and the class prepares to return to the centre. (11:10)

Friday, May 13th, 1977 - Park I

2:46 - Tod is climbing the small slide, one shoe on - one shoe off.

"Doug!" cries Tod as he moves the shoe ahead of him up the ladder. Reaching the top of the slide he calls "Doug, Doug!"

He releases the shoe from the top of the slide, and slides after it pushing it ahead of him with his feet. At the bottom of the slide, he sits looking around the playground, looking towards large slide area, as he puts on his missing shoe.

Races to large slide area; stands at the front of the slide as Christopher slides down the slide. Giggling Tod blocks Christopher's path. Tod runs around to climb the ladder. He follows behind Doug. As Doug nears the top of the ladder, he stops and grinning waits for Tod. Laughing, Tod says, "You?".

Train-style Doug and Tod slide down the slide.

2:50 - Tod runs over to the monkey bars, holding on with both hands. Edging his legs off the rung bar, he swings on the monkey bars, then gingerly slips back on to rung bar. Stands for a few moments on rung of monkey bars, looking around the playground.

Races back to large slide. As he climbs the slide, the child behind him keeps stepping on his ankles. Tod yells at him and turns around punching him in the stomach. Another child sits at the top of the slide, blocking the slide waiting for the other children to mount the slide. Giggling they ride down the slide train-style, all three of the children tumbling off on top of each other, giggling, laughing. Now five children, Doug in the lead scramble up the slide.

"One at a time," calls the teacher. Doug goes down, Tod leaves climbing the slide and runs to the front of the slide to meet him. Tod races back to climb the slide, the child in front of him reaches back his foot as if to kick him in the face. Tod steps down a few rungs of the large slide ladder.

"Brrrrr," calls the child sliding down.

The teacher asks Tod to wait for Brent to slide down "Now you wait; now you go up!" announces the teacher. Tod had waited a few rungs down and then proceeded up the slide.

At the top of the slide, Tod holds himself on the bars at the top of the slide and seems to be waiting for the other children.

"Tod, go down, please. Wait for Tod!" the teacher asks the next child.

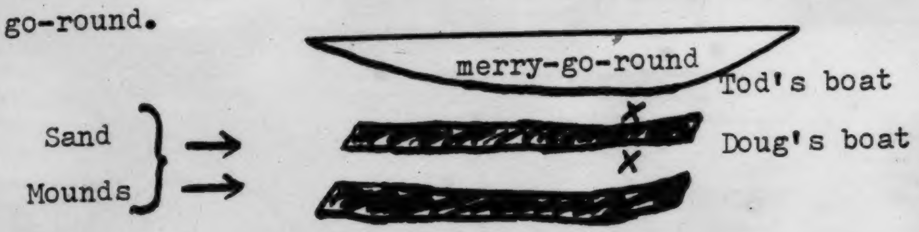
As Tod slides down he, yells, "I can go faster!"

Doug waits at the top of the slide and as Tod runs around the slide to climb it, Doug excitedly, hoarsely calls to Tod, "Come up! Come up!" Doug turns around waiting for Tod to climb up and Tod giggles and hurries up the slide. However, Doug leaves before Tod is at the top.

Doug waits at the bottom of the slide, sitting at the end of the slide, giggling and blocking the bottom. Tod calls, "Go! Go!" and then slides down.

At the bottom Doug picks up a pink bat and Tod chases him across the playground. Then Tod turns around; Doug following to the supplies. They both pick up green and orange boats. Tod runs around to the side of the merry-go-round and begins dragging the boat through the sand. While waiting for Doug, Tod steps up on to the merry-go-round and balances self on boards on merry-go-round; begins running on the boards; slips. Doug jumps on to the merry-go-round and moves towards Tod. Tod balances self in the centre, then rocking the merry-go-round jumps off into the sand.

"Hey! Someone made this for us!" exclaims Tod noting the two parallel mounds of sand beside the merry-go-round.



"Mrrrrrr!" hums Tod, driving his boat through the sand.

Doug, noting the researcher, runs over greeting her.

"Hey! Your boat, Doug!" calls Tod.

Doug returns to the boat.

"Doug, you put yours right here against my boat!" directs Tod, indicating where he is to dock the boat.

"Can I walk on that?" asks Shawn tentatively stepping on sand mounds.

"No!" roars Tod. (Exit Shawn).

"George! Hey George! I'm stuck! I'm stuck! George I'm stuck!" yells Tod bringing his boat back towards the merry-go-round.

"George, I'm stuck!" answers Doug.

Shawn walks towards Tod, says he wants to walk on the sand mounds. (Distressed) Tod shouts at Shawn, "You don't have to break that!"

"I got it George!" calls Doug moving his boat in.

"I just want to walk on it (sand mounds) very soft!" Shawn tells Tod.

"You can't play!" Doug tells Shawn.

"Toot, toot, toot!" sounds Tod as he fills his boat with sand.

"George!" repeats Doug. "George!"

Wendy arrives and begins playing in the sand beside Tod and Doug.

"Toooo -ooooooht!"

"George? George?" calls Doug.

"George is not in my boat," explains Tod. "But the boat is driving. It is coming to George," says Tod as he drives the boat back again. "Toooot - tooooot - tooot!"

"Well, my George is going to back up" announces Doug, driving it backwards around beside Tod's boat.

"No!" wails Tod as Shawn blocks the path where Tod wanted to drive his boat. "Shawn," he says, "turn it to this one". Tod dumps sand in Shawn's hair. "Hey, your wrecking this too," wails Tod as he surveys a portion of the damaged sand mounds which Tod uses for boat docking.

"Well, you did it to me! Ha! Ha!" shouts Shawn.

"George!" calls Tod to Doug.

Time: 3:00 - Assistant intervenes to talk about the sand throwing between Tod and Shawn.

3:02 - "Ahhhhhh Ahhhhhh!" hums Tod plunging his hands deep into the sand. His boat is beside him. Kneeling, digging in the sand, looks at his hands as the sand slips through his fingers.

"Mmmmmmn Mnnnnnn!" sounds Tod as he drives the boat in a circle, then he parks the boat in the hollow where he has dug the sand. Still humming, "Ahhhhhh Ahhhhhh!" he begins covering the boat with sand.

Stops humming. Looks over at the merry-go-round. "Doug!" Tod cries, realizing that Doug is gone. Wildly he runs over and grabs Doug's boat with which Wendy is playing. "Doug! Doug!" screams Tod.

Tod smiles as he sights two teachers playing with Shelley.

He looks around the playground. "Doug! Doug! Hurry up," he calls motioning wildly. "Hurry up!" (Shawn is pushing Doug on the swing and Doug has his back to Tod).

"Doug! Doug!" yells Tod.

Wendy joins Tod, calling, "Doug, Doug!"

"Get Doug!" Tod directs Wendy. "Cause he's gonna loss his boat 'n my boat, too!"

Wendy runs over towards Doug and Tod remains by the boats, staring towards Doug.

"Doug! Doug! Tod wants you!" yells Wendy.

Doug doesn't turn around. He continues to swing, his back to Wendy and Tod.

Wendy returns to sit down by the merry-go-round.

Tod, carrying Doug's boat, leaving his boat walks towards the swings. He talks to Doug while Shawn pushes Doug.

"I'm your friend!" Tod yells.

"I'm your friend, too!" Shawn tells Doug.

"I'm your friend, too!" Tod tells Doug.

Doug stands up in front of the swing and says, "I got two friends."

Shawn crawls on the swing and Tod turns starting towards the alley with his back towards the swing (about 30 sec.).

Doug picks up a red shovel. Tod goes to the teacher, Doug follows. The teacher puts her arm around Tod and her hand on Doug's. The teacher talks to the boys. She suggests that they get a pail and put some sand in it.

Since the researcher was unable to hear the discussion between the teacher and the boys, she interviewed the teacher.

Teacher: Doug said he didn't love Tod, he loved Shawn and he wanted to play with Shawn. So, I explained that I liked all three of them. They decided that the three of them could like each other and play together.

Researcher: Oh they did. And so this was when you suggested that they get the pail and fill the pail.

Teacher: Yes, until Shawn was finished swinging and then the three of them could find something to do together.

3:09 - Doug and Tod are filling the sand pail with damp sand. Tod pours out the sand and can't get the very damp sand from the bottom of the pail. "Oh, it's stuck!" he tells Doug.

"Come on! Let's go on the truck!" calls Tod to Doug climbing on the merry-go-round.

Enter Shawn.

"I'm still your friend!" Doug tells Shawn. Shawn picks up Doug's pail. "No, I'll carry that. Come-on on the truck!"

"Come-on on the truck!" says Tod. The two join Tod on the truck (merry-go-round).

"Hey you have to get on the truck!" Doug tells Wendy who is playing in the sand beside the merry-go-round.

Now seated in the centre of the merry-go-round are Doug, Shawn and Tod who are surrounding the pail.

"Now there are three truck drivers!" notes Doug happily.

"Now there's no more drivers!" states Tod. "Wendy can't play!" declares Tod.

There is a barrage of "yes" and "no" between Doug and Tod and Wendy's right to play.

"Yesss!" confirms Wendy. "Cause Doug said that I can. Right Doug?"

"I guess so!" agrees Tod. Wendy lies down on the merry-go-round with a small sand pile on the merry-go-round. She sifts through the sand.

Tod tells Doug to get off. "When I buy you popsicles you can get on!" explains Tod who is holding a popsicle stick.

Doug gets off merry-go-round. "Don't drive yet, George!"

"O.K." agrees Tod. (pause) "O.K. here's a popsicle. You can get on now!" Tod tells Doug.

"O.k. we're goin' for a picnic!" Tod tells the riders.

"Yea, we're goin' for a picnic!" agrees Doug.

Tod takes two pails and sits down in the centre of the merry-go-round. The two pails are together and between his two legs.

The merry-go-round is still and they appear to be waiting for Doug who is running about the playground gathering pails.

"Come on! George!" calls Wendy. She scoops up sand and continues to put it on the seat of the merry-go-round.

"There's only one truck driver!" Tod tells the children in Doug's absence.

Doug climbs on with some pails. "O.K. our truck can go! Oh, there's another pail over there!" Doug clambers off the merry-go-round to pick up the pail.

(While waiting for Doug to return a very little boy climbed on the merry-go-round. Taking some of Wendy's sandpile on the merry-go-round, the little boy flings sand at an older boy. The boy believes that Shawn threw the sand and begins chasing him. Wendy tells the older boy that the very little boy threw the sand. Thus, both Shawn and the older boy return to sit on the merry-go-round.

Doug returns with another bucket. Six children are now on the merry-go-round. Tod sits in the centre of the merry-go-round with five buckets.

"Can I have one of the buckets?" asks a child. "I just need one."

"No! Because we need them for our picnic!" returns Tod.

"I just need one!" pleads the child.

"Doug, go get that one!" Tod points across the playground to a plastic bowl.

"That's not a bucket!" states the child who wants a bucket.

Doug returns with the plastic bowl. Tod places it on the top of the pile of pails.

"O.K. let's go! Let's go on the picnic!" shouts Doug.

A group of children gather who plead with Tod for a pail.

With his legs spread apart and the pile of pails between them, Tod turns an imaginary steering wheel and sounds "Rmmmmmmmmm Brrrrrr!"

Tod tucks the buckets under his chin.

"We need just one small bucket!" pleads the child.

Tod offers him the dish.

"No, we need this one!" The child points to a bucket.

"I got two shovels!" announces Shawn.

3:15 - A teacher intervenes and suggests that the children build a castle while she watches.

"Hey, there's rocks in the sand!" announces Tod digging. "I gotta rock!" (displays rock to children) "Hey I got three more! There's rocks in the sand."

A little girl who was shoved by another child begins to cry.

An older boy tells her, "You don't have tah cry about it!"

"When people gonna shove away, you can tell!" Tod advises the crying girl.

"Hey know what? We're making a big castle!" announces Shawn.

"No, we're making a kingdom!" stresses an older boy.

"It's a castle!" returns Shawn.

"No, no, we're making a road!" says Tod.

"We're making a kingdom!" repeats the older boy.

"That car had an accident!" notes Tod watching a tow truck pull a damanged car down the alley.

Two children watch as the tow truck rumbles down the alley. "What kind of truck is that?" the older boy asks the researcher.

"A tow truck," replies the researcher.

"Yea, a tow truck!" repeats Tod confidently. "It's a tow truck, a tow truck".

The teacher returns with a couple armoured figurines which she hands to the older boy and Shawn.

Shawn says, "I want to give mine to Tod." (Shawn gives Tod the figurine).

Tod picks up the figurine and begins to stamp it in the damp sand and says "wooooo woooo!" Tod continues stamping the man figurine about as if it were walking, all the while saying "wooooo!"

"It's not a monster!" advises Shawn to Tod.

Tod walks the man back and forth while he pats the pail of sand with his left hand.

The teacher talks to the older boy about protection in the kingdom.

Tod points to the shield of the man he is playing with and notes, "Hey, this protects!"

"What are you making?" the teacher asks Tod.

"I'm making a castle," answers Tod.

3:22 "Where's my guy?" asks Tod, looking for his figurine. He begins to make the noise of crying.

"You don't have to cry about it!" advises a boy.

"You can't have my shovel!" Tod tells the boy.

"I don't want it!" replies the boy.

Tod tips his pail of damp sand over and tries to get the sand to come out of the pail, making a castle.

Serge grabs Tod's shovel and runs over to the damp mud.

"Serge! Serge! Serge!" screams Tod racing after Serge.

"A worm! A Worm! A worm!" screams a child, finding a live worm in the mud. A group of children surround the worm.

Tod begins to cry. "Tell me about it," a teacher invites Tod, drawing him aside.

"I'm going away from the worm world!" announces a little boy.

Serge, using Tod's shovel, covers up the worm.

"That's my shovel! Give it back!" yells Tod.

"Hey, another worm! Another worm! Over here!"

A crowd of children surround the worm. Tod stoops over watching the worm, still moving.

Tod gingerly touches it, shudders and then giggles. As Tod picks him up dangling, Wendy gives a shattering scream.

A teacher asks Tod, "Can you be gentle with him Tod because he is alive, too?"

Tod drops the worm and Wendy steps on him.

"Poor worm!" cries Tod. "Don't step on him! Don't step on him!"

"Ahhhhh!" cries a wee girl.

"Don't step on him! Don't step on him!" pleads Tod.

Jeff tries to pick the injured worm up.

Tod screams at Jeff to leave the worm alone.

A girl tells Tod, "Jeff is only little, though!"

Jeff picks the worm up and moves it towards Tod. All the children back up. Tod backs up screaming.

Jeff drops the worm. Tod kicks the initial pile where the worm was. He pokes a hole through the pile (3:33).

3:35 "Hey you guys!" yells a little girl but Tod runs back to where Christopher has a yellow pail.

Tod sticks the yellow pail over his pile of damp sand.

"Give it back to me, O.K.?" pleads Tod asking for the yellow man figurine back from Doug. They tussle.

Tod races to the small swings and yells, "I get this!" (one of the small swings).

Doug declares, "I don't want it anyway!"

"Hey swings are over there!" shouts a boy referring to the large swings which are empty. The children and Tod race towards the large swings. A teacher calls the children to come together. (3:38)

Monday, May 16th, 1977 - Day Care Centre

2:50 - Tod is playing with 'Lego' building materials. Christopher is stacking cylindrical blocks while Jimmy is also playing with the 'Lego' materials.

Tod hooks several pieces of rectangular 'Lego' pieces together. "Are you my friend?" he asks Christopher.

Christopher, stacking cylinders replies, "Ah ha. Are you my friend, too?"

"I got some cars at home," observes Tod as Christopher picks up a car and drives it through the air over his cylindrical tower.

Christopher leaves the table and Tod follows him to the sink, and then back to the table once more.

"This gonna be a house!" Jimmy tells Tod as he continues hooking rectangular pieces together.

"This gonna be a house airport for the planes to go in!" comments Tod.

Jimmy has problems putting in the window and Tod offers, "Let me! I'll do it!" While Jimmy watches, Tod quickly attaches the window.

Tod picks up a rectangular 'Lego' piece and holding it lengthwise taps it across the table and back as if the piece were walking. As Tod walks the piece along he deepens his voice (his George voice) and carries on the following conversation by himself:

"Joe! Joe!" he calls tapping the piece. "Hey Joe! Joe!"

"Yea, this is Joe!"

"Oh Joe?"

"What?"

"I want my plane started!" replies Tod in an especially deep, husky voice.

"Joe?"

"My airplane's gonna blow up!" Tod picks up his 'Lego' built airplane and flies it over his airport. "It's gonna hit the water! Nyowww wooo mmmm!" Tod collapses with his flying airplane on the floor (the water) and rolls over lying still as if dead.

"I go make a new airplane!" announces Tod getting up and returning to the table.

Christopher flies his car over his towering structure. Tod grins and picks up his entire airport as well as his plane. As he walks around the table he says, "Brrrr Brrrr."

Tod sets the sirport down on the table and continues to fly his airplane over the structure, "Brrrrr Brrrr." He is also holding himself like he has to go to the bathroom. "Mmmn Mmmn, my airplane's going to go on. My airplane's going to go on! Mmmmmmn Mmmmmnnn . . . "

Continuing to hum, "Woooo Woooo . . . " as he puts two circular bases on his airport structure (look like control towers). (3:00)

Tod leaves his structure and walks across the room to where he talks with some children about a broken chair. He stands watching as the teacher repairs the chair.

Returning to the table, Tod has a brief argument with Christopher over Christopher's having a door with a window. Then Tod begins sorting through the 'lego' supply box. He finds a small tire from another toy car and he holds the tire up examining it.

"Oh! Who made this?" asks Tod holding up the wheel.

"I did. I make it," answers Christopher.

"How did you make it? How did you make it?" repeatedly asks Tod. "Good you made this!"

Tod starts to make the noise of crying as Christopher takes the wheel and holds it up to his ear making an ear ring.

"I'm telling!" proclaims Tod loudly, calling the teacher.

"You know what?" Tod tells the teacher. "Christopher took my wheel!"

"Did you tell Christopher you don't like things being taken?" asks the teacher.

As Christopher sorts through the box, Tod elbows in and finds another wheel. (This is the same wheel that Christopher had. It is full of saliva).

Tod holds the wheel up disgustedly, "Oh look Christopher. Sucked in your mouth!" Tod throws the wheel down and notes that Jimmy's house has been disturbed. "Jimmy someone wrecked your house!" Tod calls loudly in a sing-song voice. "Jimmy! Someone wrecked your house. Jimmy! Jimmy!"

Jimmy continues to play in another area of the room disregarding Tod's summons.

3:07 - Tod is very excited because he has been given permission to go on the climbing frame in the next room.

"Who wants to play cowboys and Indians?" shouts Shawn to the children in the large motor equipment room. "Me ee! Me eeee!" shouts Tod, standing on the platform of the climbing frame.

"Watch me!" Doug calls to the researcher, as he swings back and forth from the bars. "Watch me, David!" calls Doug continuing to swing.

"And watch me, too!" Tod asks David, as he swings, also holding on by his hands.

"Hey, David, watch!" calls Doug swinging still more vigorously.

"Me! I can jump down from these. Can you?" challenges Doug.

"Me, too!" proclaims Tod.

"I'm taking off my socky fockies!" announces David.

"Look at me! I'm Superman!" announces David mounting the platform.

Tod climbs up the rope. "I can slide down below!" lowering himself by holding on with his hands. "I'm a climber mountain! I'm a climber mountain!" cheers Tod mounting the platform.

They swing back and forth on the rope. Doug yells, "Me - ME Batman!"

"I can climb up the ro-ope!" Tod sings out as he climbs the rope.

"And you slide down, O.K.?" asks Doug.

"No ohhh . . . I'm going to the fire trucks!"

answers Tod.

Doug swings forward and wraps his legs around Tod who is on the rope, then Doug drops to the floor.

"He can't slide down ro-ope!" taunts Tod. Brightening he asks, "Hey, are you scared?"

"Hey, I can do it backwards!" announces Tod dropping from the rope and doing a backwards roll. As he does it he cheers as if surprised, "I did it! I rolled backwards like this!" Tod repeats the roll.

Doug tries to imitate Tod but his backwards roll turns into a side roll.

"Tell you what to do!" announces Tod, rolling back, kicking his legs into the air, balancing momentarily on his hips, then completing his roll.

"I can do that! Hey, I can do that!" announces Doug, watching Tod.

Doug practices. "Oww Oww!" screams Doug starting to cry. "My bum hurts! My bum hurts!"

From the top of the platform, Tod observes Doug. "Teacher! Teacher!" shouts Tod, trying to summon help for Doug.

Michael and David begin tussling and both Tod and Doug watch. Doug stops crying and attempts to climb the rope.

Tod watches Doug struggling to climb the rope. From the platform Doug observes, "He want to do mountain climbin' like me! Right Doug?" Tod asks the researcher, "Help Doug climb up the rope?"

As the researcher helps Doug climb the rope, Tod calls out, "I could be a climb mountainer!"

"And me too!" squeals Doug who is at the top of the rope.

"Look at me! I come sliding down!" squeals Doug, sliding down the rope.

Meanwhile Tod is supporting himself with his hands on top of a large hole in the platform. He grunts, "Mmmm! Pl Pl!" He seems to be pretending it's a toilet.

"What are you pretending it is, Tod?" asks the researcher to confirm her hypothesis.

"I'm peein' in here!" announces Tod matter-of-factly continuing to grunt.

Doug does the same thing on the other side of the platform where there is a second hole (like an outdoor toilet). He's giggling and laughing. "I'm finished doing!" announces Doug.

"Oh, I'm going in the toilet! I'm going in the toilet!" moans Tod, lowering himself through the hole and into the chest under the platform.

"I'm going in the toilet! I'm going in the toilet!" echoes Doug, descending through his hole.

Tod starts rolling around, kicking as if he were swimming, kicking against the sides of the chest. He holds his face up, having a most disgusted look as he looks around at the walls of the chest.

"What's inside there, Tod?" asks the researcher peering through the hole.

"There's pee in there!" replies Tod miserably. "And there's pee all over!" Crawling out, Tod shakes his head, "What a mess!"

"Oh! Oh!" Tod calls as if startled. "I'm going in again! "I'm going in again!" he calls lowering himself down through the hole. As he descends, he calls, "Help! Help! Help!"

Meanwhile Doug climbs out.

Tod gasps as if drowning as he struggles, swimming, flicking his wrists and kicking his ankles.

Doug asks the researcher to help him up the rope once more. "I come sliding down! I did it!" Doug squeals proudly. "Teacher! Teacher! Look!" squeals Doug, swinging on the rope.

Tod, out of the hole, tells Doug, "She's not a teacher! She's just a different person!" referring to the researcher.

"What am I, Tod?" asks the researcher.

Tod doesn't answer. "She's a different teacher!" suggests Doug.

"I don't know your name. I forget," Tod tells the researcher.

"Lynda," replies the researcher.

"Oh, Lynda, help me up the rope, please!" asks Doug.

"No, I'd rather see what you can do," answers the researcher.

"She's a different teacher, just Lynda. She's not a teacher, just Lynda," mutters Tod, climbing the ladder rope. "Up we go-oh, up we go-oh!" sings Tod. "Up we go, ladder! Up we go ladder!"

Michael and David are spiking one of the pillows from the wall divider as one would a volleyball. They are talking about being friends.

"I'll have a fight with you and I'm your friend!" offers David.

"You gotta let me win 'cause I'm six!" stresses Michael.

"Hey I'm six too! I'm six too!" yells Tod from the top of the climbing frame. (He has crawled all the way up the rope ladder and now is crawling along the top of the climbing frame which is similar to the top of the monkey bars). Tod is four.

Tod watches the fight between the rails of the top of the climbing frame.

Meanwhile Doug gets on his socks.

"Doug's wearing his socky walkies!" calls out Tod. Tod is lying on top of the climbing frame, picks the lint off his socks.

He straddles the centre of the climbing frame and calls in a sing-song voice, "I'm up in the sky-y! I'm up in the sky-y! I am so-oh!"

Doug stands under the climbing frame looking up at Tod.

Meanwhile David and Michael start whirling the pillow.

"Doug!" calls Tod. "Come on, use the rope! (rope ladder)".

Doug jiggles the rope ladder. "Can you let go of this rope up there? I can too!" Doug squeals as if making a discovery.

"Take your socks off, O.K.?" suggests Doug, who has taken his socks off.

"When I get down!" agrees Tod. "You get on that side, I get on this side!" suggests Tod, referring to opposite sides of the top of the climbing frame.

Lying on his tummy, Tod crawls across the top of the climbing frame. "Oh, look at these big holes!" (similar to the spaces between the rails of the top of the monkey bars).

Doug now on top of the frame, cautiously proceeds across.

"You have to slide down the rope!" suggests Tod as he nears the side near the rope. "You have to climb down the rope. Oh just a minute. I have to climb down this pole!" (referring to the climbing pole).

Tod lies down on top of the frame and watches Doug as he climbs cautiously towards him, across the top of the climbing frame.

"Climb down the ladder," Tod suggests to Doug. (Doug has crawled away from the side of the frame which has the ladder). "O.K. you got one more chance to go back!" warns Tod as Doug nearly reaches Tod.

Doug moves close to Tod, crowding Tod. Tod looks down (nervously). "Please go away!" asks Tod. "Please go a-way! Come-on! Your squishing me down!"

Doug moves still closer to Tod.

"A-CHOO!" screams Tod (trying to make Doug move back).

"Let's go back," suggests Doug, moving back.

"You can't even get down!" taunts Tod.

Tod groans as he hauls himself across the frame, following after Doug on his tummy. "We're up here in the skies aren't we? And I can reach the light-ights!" boasts Tod reaching toward the light. "Right?"

"No I can't!" admits Doug (touch the lights).

"And I'm big!" boasts Tod.

"And I'm not!" admits Doug.

"And I'm really big!" boasts Tod. "And I'm up in the sky-y!" (3:25)

Friday, May 20th, 1977 - Park I

2:58 - Giggling Tod and Doug bump each other up and down on the teeter totters.

"Da teeter totters!" squeals Doug, giggling.

Giggling, Tod holds Doug in the air. "Say Mr. Black let me down!" orders Tod to a giggling Doug. "Say Mr. Black right now!"

Doug continues to giggle.

"Say Mr. Blue, let me down!" orders Tod continuing to hold Doug in the air. "Say Mr. Blue, Mr. Blue, let me down!"

"Hey, there's no water!" screams Doug delightedly looking towards the large swings from his captive position in the air. "No water in there! There's no water in there!" (The children had been told not to play in the water around the swings, prior to leaving the Centre).

Tod and Doug teeter a few times when Tod once more holds Doug in the air. "It's stuck!" proclaims Tod, scooping sand on to both sides of the teeter totter. "It's stuck Doug!"

Singing and humming to himself, Tod lets Doug up and down as he watches the sand slide from the moving teeter totter.

Tod starts slipping forward and getting off teeter totter, he lifts Doug by pushing down with his hands, now struggling to climb on the teeter totter.

As Tod climbs on the teeter totter,Doug cheers, "Hey, there's no rain out there!" looking once more towards the swings.

Doug gets off the teeter totter and begins chattering to Jimmy.

Tod runs on to the slides and stops at a wet spot near the slide. "You guys! You guys!" shrieks Tod, crouching down. "Doug! I found a real worm! Hurry Doug! Hurry!"

Doug arrives dragging a pink bat.

"Right here!" points out Tod. "He's a caterpillar. I'm gonna stick mine on a tree!"

"Yea, we saw one over there!" points out a boy.

"Don't touch!" Tod cautions Doug who is feeling the caterpillar.

"You gotta book, you can read 'em and he turns into a butterfly!" informs the boy, studying the caterpillar and he crawls on.

"Hey you can take him on the monkey bars!" suggests Serge.

Tod continues to crouch over the caterpillar, watching it crawl.

"Hey, pick him up. Put him on the tree!" suggests Serge. "Put him on the tree! Come on! He'll eat leaves!"

Serge leads the way and Tod follows holding the caterpillar between two fingers. He turns the caterpillar over in his hand and starts patting the underside of the caterpillar.

"Just put him on your hand like this! Don't squish him!" instructs the boy.

Shivering, Tod follows the boy's instructions but drops the caterpillar.

Tod gets a rock and the caterpillar crawls on and over it. Tod and Doug back up screaming.

Tod screams, "Come on! Come on! I gotta stick!" Serge lowers the caterpillar and Tod allows the caterpillar to crawl along the stick. Tod giggles as the caterpillar crawls up the stick towards his hands.

Tod keeps one hand on each end of the stick as he walks towards the large tire area.

Tod rests the stick on the large tire and the caterpillar crawls off into the groove of the tire.

"Hey Tod, do you want a boat? Do you want a boat?" asks Doug, standing with two boats.

Tod picks up a second caterpillar and puts it on the large tire.

"Don't! I found that one!" announces Serge to Tod.

Another girl appears with a caterpillar she has found and she puts it on the tire.

Tod begins crawling up the second tire, away from the three caterpillars. He looks inside the tire. "Hey, Doug! Doug!" calls Tod.

Tod races back to the first tire calling Doug. He stops briefly to look at the three caterpillars and then excitedly runs over to Christopher. "Hey, Serge found one and then I found one! Come on!" Christopher follows Tod over to the first tire.

"See, I found one, too. I found one, too!"

"He's mine!" yells Serge.

"He's ours!" yells Tod.

Tod gallops over to the damp spot by the slide where he found the caterpillar. He peers into a second muddy spot.

Tod mounts slide, pausing to look back at Wendy who is getting a ride from a teacher on the swing.

At the top of the slide, Tod pauses, watching Wendy, then calls to researcher, "Hey, watch me go fast!" He whizzes down the slide, then squats down to dig with a stick in the sand at the base of the slide.

With his eyes on the sand, Tod walks along, talking to Jimmy, still holding his stick.

With Jimmy tailing behind him, he races back to the first tire area. He puts an arm around Christopher, steering him to the tire. They look briefly at the caterpillars.

Tod spots Doug by the second tire. "Can I have one?" asks Tod taking one of Doug's boats. (Doug has been sliding the boat around the outside of the tire).

Tod jumps up throwing his boat into the interior of the tire. "Mine's in the water. My boat's in the water. Mine's in the water," repeats Tod, watching as his boat bobs in the water inside the tire.

Tod crawls over the tire. He drives his boat in the water. Standing up, Tod calls to Doug, "Floa' yours in the water!"

A teacher intervenes, telling the children, "Come on. Out of there, honey. Come on, out of there; it's glass. It's out!" (There is some broken glass in the centre of the tire).

"I will get my boat!"

The teacher lifts the boat and empties the water from the boat. Tod watches her. When she hands him the boat, Tod continues to shake out water droplets.

"Hey, I will see!" exclaims Tod looking up the bark of a tree, up into the leaves. (A group of children are standing around the tree, pointing up at a caterpillar, on the bark, but out of their reach).

"Come on, Wormy! Come on, Wormy!" Tod urges the caterpillar which is still too high to reach.

Tod races over to the large swings and clampers on the sole swing.

Doug complains, "They didn't put those swings down!" (All the swings are wound around the supporting swing bar with the exception to the swing Tod is using).

"We have to share. I'll push you!" offers Doug.

"I know how to go crooked!" notes Tod, shifting his weight on the swing to make it angle towards the bar.

(Doug asks the researcher to help him up the swing bar. Giggling, Doug slides down the pole noting, "Hey, I'm a fast slider). Tod watches, still riding the swing.

"Kay, you can have it!" offers Tod leaping from the swing and running towards the small slide where he picks up two boats.

Returning to Doug, on the swing, Tod sets the boats down. Tod runs back and forth with the swing, not letting it go. He aims to give Doug an under-push, but does not let the back of the swing go, twisting Doug.

Suddenly Tod stops in a muddy spot, shrieking excitedly, "Worms! Worms! Worms!"

Doug squeals and tries to get off the swing.

Tod picks up a worm.

Doug bounds over, "Is it dead?"

Tod picks up a second worm, setting the first worm aside. He examines the second worm, setting it on top of the first worm. "This worm got died!" Tod notes "These worms are died!"

Tod drives a boat through the mud, then joyfully leaps upon a beachball. He rolls it through the mud, bounces it into the mud.

"Mud! Mud! Mud!" shrieks Tod gleefully, showing the ball to Doug who is swinging. (The ball is streaked with mud along the areas which Tod had rolled through the mud).

Tod picks up a bat, aims at the ball, golf style. He wipes some of the mud from the ball on the grass. Tod picks up the ball and bat (quite a load!) and walks over to a tree where some children are watching a caterpillar in the tree. "Come on Cat! Come on Cat!" calls Tod, urging the caterpillar to come down. A boy suggests that they should get a stick.

"Hey, what happened to the caterpillar?" asks Tod checking the first tire. Holding his pink bat, Tod walks around checking all the tire grooves.

"Hey you guys! You guys!" yells Tod, beating with his pink bat on the ground.

Wendy, playing near Tod, asks, "What? What?"

Tod ignores Wendy.

A caterpillar in a tire groove, sticks its body out towards Tod.

Tod giggles delightedly, squatting down to watch the caterpillar.

"He's right there!" Tod informs Doug.

"let's step on him!" suggests Wendy.

"No!" shrieks Tod.

As the caterpillar tumbles to the ground, Wendy steps on it.

"You stepped on him!" declares Tod with a soblike gulp as he examines the squished caterpillar.

Racing over to a group of children, Tod yells, "Pam, someone stepped on a caterpillar! Someone stepped on a caterpillar!"

"Hey, she stepped on it! Wendy stepped on it!" informs Tod, leading the way.

"No! I see something funny!" screams Pam running over to a tree where a group of children are shrieking.

"Hey Tod! Come here! Come here!" calls Pam to Tod who is standing over the squished caterpillar.

(A caterpillar on a long web in mid-air is swaying back and forth with the breeze. The children move in, and back up shrieking and giggling as the caterpillar blows towards them).

Tod and the children edge closer to the caterpillar, closer, giggling and then back up hysterically screaming.

"You guys, he's on a web!" proclaims a girl to the screaming children.

"'Cause caterpillars have webs," replies a second girl importantly.

Screaming, they back away once more. Tod trips over a little girl as he backs away, screaming, keeping his eye on the caterpillar.

Screaming, Tod backs away once more.

Tod races over to Tonia. "Caterpillar's flying!" he announces. Tod races over to the teeter totters, proclaiming and pointing, "Caterpillars flying, caterpillar's flying!"

"Did you ever see a caterpillar flying?" Tod asks Michael.

Without waiting for an answer, Tod races on to the small swings. "Caterpillar's flying! Caterpillar's flying!" (After each announcement several children run off to see the "flying" caterpillar).

Tod races on to a group of children who are searching for worms under a conifer. They lift up the sods under the tree and are hanging the worms on the tree.

Tod gingerly touches a worm that's still moving. "Hey, there! It's wet!" squeals Tod backing up from the worm.

Tod thrusts his hand out once more, picking up the worm and hanging it on the tree. "Hey, I got one! I got one! I got one!" he cheers.

"Here's one! Here's one!" The children are picking up worms with long twig-like sticks.

"Hey, I hang 'em up!" offers Doug.

"You can help," agrees the dominant "Hanger-upper".

Tod hangs another worm on the needles when a girl calls, "Hey, a spider!" with great wonderment in her voice.

"Where? Don't kill him!" calls a boy and the children cluster around the girl searching for the spider which has disappeared.

After a few moments, Tod leaves the spider hunt, and searches through the dandilions and brush, probing with his stick in search of worms.

A teacher intervenes calling Tod back as he has wandered towards the alley. Turning to the children she declares, "We are not killing worms. Worms are good. Leave the worms alone!"

Tod and the children take the worms off the tree and start replacing the sods. Still carrying his stick, he examines the underside of a piece of sod, turns the sod over, and throws it down.

Holding his stick and making a buzzing sound, he sits on the green rail, watching the children argue over who owns which worm.

I'm gonna find if they're in there," Tod tells the researcher. He picks up a sod where he had put a worm initially. He picks up another piece of sod where he finds an acorn. A worm crawls over the acorn.

"Hmm? I wonder if I put him in the sand?" says Tod to himself. He holds the worm cupped in both hands. "I'm gonna put it in the sand!" Tod says to himself walking to the sand area.

With the worm he climbs over the bordering green rail and looks around the sand. "Where's that other?" he mumbles as he covers the worm with sand. He crumbles some hard sand and pats it down, making a small sand pile.

Patting the sand he croons, "There you are! In the house!"

He races over to Jimmy who is digging in the damp sand with a scratcher. "Come on Jimmy! I gotta worm!"

Jimmy remains and Tod returns to the area where he had buried the worm.

"I think he died or something!" he remarks to himself as he digs through the sand. Jimmy runs over to Tod.

"That wasn't it." Tod tells Jimmy. "Just a minute, must be another place."

Tod scratches through the sand with his nails. Jimmy joins him with his scratcher.

"Oh I got the worm!" Tod holds up the sand covered worm gleefully showing it to Jimmy.

Tod runs with Jimmy back to where Jimmy has dug a hole and sets the worm down. "Just a minute, Jimmy. I have to get two more!"

Tod returns to the sods leaving Jimmy with the worm. He shifts the sods aside, pokes with his stick. He finds another worm.

"I found another worm! I found another worm!" calls Tod, taking the worm to Jimmy.

"Where is he? Oh where is he?" Tod asks anxiously looking for his worm.

"I scratched him in!" answers Jimmy.

"Did you cover him?" asks Tod, digging frantically in the sand pile.

Tod finds the worm, covered with sand. Close beside it is a second worm. "Another worm! Now we got three worms!" marvels Tod.

Tod picks up two of the worms holding them close together. "Where's the other one?" Tod asks Jimmy.

"I'm bringing them!" Tod announces to Doug who has just arrived. In Tod's cupped hands are the three worms.

"Where did you find them?" asks Doug.

"In the sand. I found them in the sand."

"Where in the sand?"

Tod starts searching for more worms in a wet spot, still holding the squiggling worms. "Nice worms. Nice worms!" Tod croons to the worms, patting them softly with the tip of his finger. He sets the worms down and squats over the wet spot.

"I found some worms!" Tod announces to a boy. The boy starts sprinkling sand on the worms and Tod screams, "Get out!"

The boy stamps the worms into the ground.

Tod pushes the boy away and frantically gathers up his worms.

Doug gets off the slide and pushes the child away.

The boy runs off and Doug declares proudly, "Hey, he's a scaredy cat!"

Tod carries his three worms back to Jimmy. "Hey now I got four worms!" he remarks incredulously to himself, looking at the worms in his hands (one of the worms split in two). Tod starts to bury the worms in Jimmy's castle when Jimmy protests.

"Oh is this a worm house?" Tod asks Jimmy.

Jimmy agrees that it is a worm house and so Tod pokes a hole in the house, covering the worm.

Doug arrives carrying two boats. "Hey George? George? George? George? George?" he repeatedly growls in his deep "George" voice.

"Worms live in here. Right? This is a worm house. Worms live in here. Right?" repeatedly comments Tod, burying the worms.

"You want to play 'Doubles' with me?" asks a boy.

"No not yet!" answers Tod. "We found some worms in the sand. Now we have a worm house. Right? (3:36)

"George?" repeats a growling Doug.

"What?" growls back Tod in his 'George' voice.

"Hey, here's a tunnel for you guys!" says the boy poking a hole in the house.

"Those worms aren't going to come out?" worries Tod checking the tunnel. "No. Don't wreck it!" Tod cautions the boy.

A worm slithers out. "Oh he's mine!" shouts the boy. "I found him. He's mine! He's mine! He's mine!"

"No! He's mine!" Tod hysterically screams at the boy, running after him.

The boy drops the worm and Tod picks it up, crooning and examining it. He brings it back to the pile and begins frantically sorting through the sand for the other worms. He puts them in the boat as he finds them.

The boy returns and finds a worm.

"O.K. put him in the boat!" cautions Tod.

"O.K. but he's gonna be mine!" reminds the boy.

"But he might get out!" observes Tod.

"Two worms - somewhere?" Tod tips the boat searching for the worms in the stern.

"Where's that worm? Is he in the house? Oh no! No! No! What happened to those worms?" he asks mournfully, poking holes in the sand with his fingers.

He scratches with his fingers in the sand while Doug is putting sand in the trash can. (3:45)

(Tod spent some time searching for the worms then began playing boats with Doug.)

"Hey George this is the river. This is the pretend river!" growls Tod driving his boat around the tracks from the vacant merry-go-round.

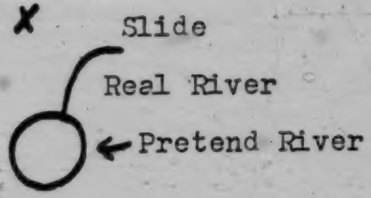
"George?"

"What?"

"Is your ship goin?"

"Yea, Get a fish?" growls Tod. "Oh what a big wiver!" Oh now we're on the real river!" marvels Tod, steering his boat along a deep groove towards the slide.

(The teacher calls the children for snacks) 3:49



(4:05 - after snacks) Tod has both boats and he tells an inquiring teacher that he is saving the second boat for Doug who is finishing his cookie. First Tod checked that all of his worms were in his boat. Then he informed Doug that he would put a worm in his boat.

"I'm sorry. I have tah put you in the other boat!" Tod croons to the worm. "I'm sorry!"

Doug smacking his lips, follows Tod back to the sand area. Tod carries the boats and makes the sound of a chicken. Doug joins him making the chicken sound ..

"Ahbubbuk Ahbukbuk!" repeats Tod shaking the worms out of his boat near the rivers. "There worms! Ahbubbuk!"

Tod loads the worm once more in his boat and carries them over to a damp sand area. Cupping the worms in his hands, he shows them to a girl.

"Ach!" replies the horrified girl, backing up, "Put them down!"

"Why?"

"Put them in the boat!" suggests the girl.

"O.K." agrees Tod putting the worms in, but examining each as he does so. "Hey, I thought I saw him stick his tongue out!" Tod pulls the worm out, holding it between two fingers.

The worm drops. "Oh, you stepped on him!" says Tod, softly running his fingers along the worm. The worm is still wiggling.

"Let's make 'em a worm house!"

Tod builds a house as before, poking holes in it. As he builds he sings, "We found some wor-orms! We found some wor-orms!"

"We found some wor-orms!" he chants, running over to Michael. He returns to his worm house, scratching around it with a small twig. "I found them! I found them!" he chants softly to himself.

Tod covers one of the worms, then pries the mound with his heel gently. He picks the worm up, singing, "There I found a worm! I found a worm! I found a worm!" He rocks his body as he sings by the teetertotters. He whispers to the worm as he cradles the worm in his hands as he walks across the sand area.

With his worm he wanders back to where he left the boats. He stretches the worm right out, with his fingers on each side of the worm. He sniffs the worm and rolls the worm around with his fingers. He sets the worm down on the slide ladder singing, "Up, up the merry go, up the merry go, up up . . . "

Tod pries the worm on to his twig and carries the worm back toward the slide area. The worm tumbles to the ground and Tod picks the worm up with his stick. The worm dangles over the edge of the twig and starts slipping.

The worm has started to crawl on to the edge of Tod's hand. "Look, it's sitting on me!" Tod says delightedly to himself.

Breathless, Doug comes running over. "Know what? I pulled my pants down!"

Tod ignores Doug's news and stretching the worm he says, "See the worm!"

Tod raises the worm up, and kisses the worm three times at the top end of the worm. He stretches the worm out, tapping it lightly with his stick as he sets the worm down.

Tod pulls his pants down, saying, "Psst Psst . . . " and turning around. "Hey, I pulled my pants down! Like this," he says, pulling his pants down again, giggling.

Doug pulls his pants down, giggling.

"Come on Doug. Pull up your pants please!" requests a teacher.

"Hey, I kissed the worm!" exclaims Tod, returning and kissing the worm once more. He then drops the worm into the hole.

"Tod, I'm sure the worm doesn't want to be drug all over!" says the teacher. "Leave the worm alone!"

Tod and Doug run to the large slide where they find a hooded doll. "That's somebody's dollie!" observes Doug.

Tod picks the doll up, rocking the doll gently and talking to it softly. Then holding the doll by the arm, he races across the sand area, drops the doll, picks it up, and continues running towards the grassy hilly region with the doll under his arm. Doug runs after him.

Tod runs on across the grassy field to where there's a child lying on the grass. Tod tosses the doll down by the child who was sleeping. The sleepy child sits up, sucking her thumb (about four or five years).

Tod leaves the doll with the girl and Tod and Doug run on to the dry wading pool area. They circle the wading pool, running round and round in circles. They run down an incline plane which leads into the wading pool.

"Tod! Back here!" calls a teacher.

"Let's go back!" suggests Doug worriedly.

Tod starts back but seeing the grassy hill, begins rolling down the hill. He scratches his knee as he tumbles, then rolls on to the bottom of the hill. He returns to examine the area where he scratched himself then begins rolling once more down the hill. Tod and Doug repeatedly giggling, roll down the gentle slope.

Doug, lying on his tummy watches Tod as he reaches the bottom of the hill and begins to roll up the hill.

"Ha ha!" giggles Doug, also trying to roll up the hill.

The boys seem to be rolling on one giant circle. Periodically they look up, laughing at each other.

"Hey, I'm rolling the wrong way!" announces Doug enthusiastically as he rolls steadily up the hill.

Tod, leading the way, races on up the hill back to the wading pool. He slides down the incline plane, followed by Doug. Giggling, Tod runs around in a great circle, then runs down the incline plane.

"Tod and Doug!" calls the teacher firmly. "Back here!"

Tod starts to roll down the hill but looks up, and notices that Doug is walking away from the hill and so follows Doug.

Doug stops to talk to some children who are building a castle.

Tod continues on to his 'river' area where he picks up an old comb. He holds himself like he has to go to the bathroom and is hiccupping. He carries the comb back to where Doug is digging in the sand and then continues on to the teeter totters (4:10).

Tod rests his body over the teeter totter bar and balances on his tummy as a central pivot. His head is down towards the sand. He lowers his head down, balancing on it as he looks around the playground from this topsy-turvy position.

4:12 - Tod continues balancing on his head which is tucked in the sand. Twisting forward, he does a frontward roll over the bar into the sand. He sits up scratching his eyes. Repeats the roll from the opposite direction over the teeter totter bar.

Tod races back to where Jimmy and Doug are digging in the mud. "I haven't got a worm, no more!" he tells them.

Tod races back to the sod area. He lifts up a sod, prying it with his stick. He lifts up a second sod, rolls it over. The sod slips back to where it was previously. Tod's huffing. He looks at the branch of the tree (where the worms were hung earlier), along the bark of the tree, and bends the branch down.

"Hey, that guy got the same coat like you!" Tod tells Doug who is standing close by. (The boy is wearing a coat very similar to Doug's).

Tod does a frontward roll over the green rail dividing the sand area from the grass.

"Hey, that's my tractor!" Tod tells Jimmy who is using part of a bleach bottle for digging.

"No, it's mine." answers Jimmy. "He thinks it's his tractor!" Jimmy tells Doug.

Tod runs on across the sand area to the tire region. He climbs up the tire. Kneeling on top of the tire, he looks down. "There's all the water!" Tod says to himself.

He races back to the sand area, picks up his boat and races back to the large tire. He sets the boat on the top of the tire. "I'm gonna drop a boat in here!" announces Tod to himself as he drops the boat. He jumps down and starts driving the boat through the water in the tire. "My boat's in here! My boat's in here!" He huffs and puffs as he drives the boat.

(For Tod's safety, the researcher decided to intervene). "Tod there's glass in there. You'd better come out." (Tod continues to drive the boat). "Tod! See the glass. If you fall on that, you could cut your knee. I don't want you to have a cut knee. That would hurt poor Tod."

"Oh, I just drive the boat in the water and I have to be careful of that!" Tod advises the researcher.

(There are many glass splinters, too numerous to gather quickly). The researcher bent down and picked Tod up out of the tire.

"Hey, you don't have to pull me out!" Tod remarks to the researcher irritably.

"I'm sorry Tod. There! Now you're safe!"

Sitting on top of the tire, Tod sprinkles sand into the water, watching it as it splashes the water. He shakes the water out of his boat, standing up on top of the tire. Singing to himself, "Ha ha! Way up high! Ha ha . . . " as he balances, walking around the top of the tire.

Tod jumps off the tire and returns to the playground.

4:20 - Carrying the boat, Tod races back to the small swings. He climbs into the swing with the boat at his feet.

"Push me higher, higher!" calls Tod. He calls over to where Jimmy and Doug are playing but they remain oblivious to his calls. He rocks in the swing, holding his head back as though he's trying to look at the world from this perspective. He twists himself around in the swing. As the swing slows, he climbs out.

He stands by the teeter totters, chattering with Christopher, who is being bumped on the teeter totter.

A teacher tells Tod that he may take Tonia's place. "O.K. agrees Tod, climbing on the end.

The teacher helps Wendy on the other end.

"Now let's do the colours!" says Wendy to Tod.

"No!" declares Tod, putting his feet up on the teeter totter, and holding Wendy in the air.

"Yellow!" yells Wendy. "Now get down! Let me down! Let me down! Let me! You don't want me to go down. You just playing!"

Laughing, Tod bumps Wendy down.

"Don't bump!" exclaims Wendy.

They bump back and forth. (Wendy is much lighter than Tod).

Christopher throws some sand on the teeter totter.

Wendy gets off and Tod sitting on the bottom end of the teeter totter, remarks, "Hey, I'm big!"

Christopher climbs on the opposite side and they bump each other as they teeter.

"There you are!" announces Christopher, holding Tod in the air. "Get down Tod!" he continues teasingly.

"Hey don't pull me off!" declares Tod as Christopher lowers him.

Christopher holds Tod once more in the air and Tod screams with rage. (4:30)

Christopher and Tod continue to teeter, with Christopher continuing to hold Tod in the air.

"I want to go on with someone else! Not you!" exclaims Tod in a real rage. Repeatedly he screams for Doug. Christopher, who was off the teeter starts to climb on and Tod screams, "Not you though! Go get Doug!"

"He won't come!" answers Christopher.

"O.K., you save this!" Tod requests Chris to save the teeter for Doug and himself.

Christopher sits on the end of the teeter waiting.

Tod races to Doug who continues digging in the sand.

Tod returns to the teeter and seeing Christopher sitting on the end, pushes him saying, "Get off. Give Doug a ride!" Christopher remains sitting on the end and squealing. Tod tries to weigh the opposite end of the teeter down by jumping up and pulling down with his body. (4:33)

Tod stamps his foot into the sand, and screams at

Christopher, "Get off! This is Doug's place!"

Christopher gets off and Tod, sobbing quietly sits on the end of the teeter totter. Christopher sits on the teeter just ahead but out of reach of Tod.

Tod rages, "No, I want Doug! Doug!"

A teacher intervenes. "Tod, Doug is busy with someone else, so you let Chris have a ride. O.K.?"

"No, I only want Doug!"

"Let's see who is heavier," suggests the teacher as Chrisopher climbs on the other end.

"He won't let me down!" Tod tells the teacher.

"Sure, he will!"

Back and forth the boys teeter, each saying "like this" as his side touches the ground.

"How about doing this?" suggests Chris easing his tummy forward on to the teeter while holding on to the bars. Tod does the same.

The teacher intervenes, "Come on! You guys are going to fall. Now sit up properly!"

They return to rocking on the teeters.

Christopher holds Tod in the air and Tod makes the sound of crying. Christopher lowers him.

Grinning and squinting from the sun, Tod holds Christopher in the air. (4:45)

Appendix D: Researcher's Diary

Weekly Summary & Reflections (April 25th - April 29th,1977):

On Monday, April 25th, my objective was to familiarize myself with the children and get the "feeling" of the routines and philosophy of the centre.

I was deeply impressed by the abundance of space, numerous unstructured toys and materials, (i.e. space utilization). For example, there are movable walls, walls with pillow stuffed crawl or peak holes (also used for child produced puppet shows), climbing apparatus, and foam for jumping, as well as several places to hide away by oneself or with friends.

The children are very enthusiastic and seem to enjoy the centre tremendously. The staff appear very dedicated and vitally interested in children. They also expressed what appears to me to be sincere interest in my topic and a desire to co-operate.

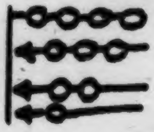
Being with three and four year olds was an enlightening experience for me. How I envied them their bubbling curiosity and exhuberance about everything! If we as adults could only retain such a manner, what contributions we could make to discovering the wonders all about us.

For example in walking to the park, one little girl began bouncing with glee at the sight of a butterfly (a moth). While bouncing she inadvertently stepped on an ant. "Oh, you killed a part of nature!" intoned her troubled partner. I suspected that I was among some pretty observant people.

I was drawn to Tod in that he seemed so very involved in his play. Secondly, he seemed to enjoy talking about what he was doing, thus I felt I could get data as to how he was processing his activities and information. He also did not seem to mind my presence as I recorded my observations.

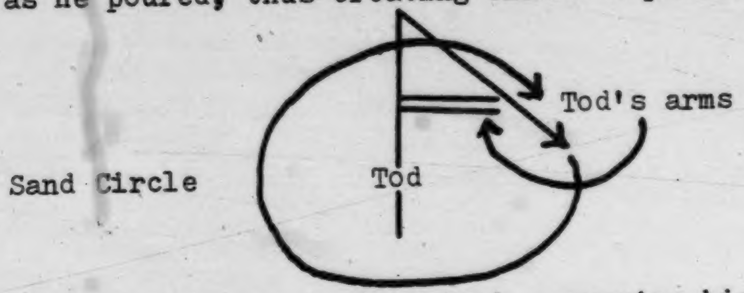
On Monday, my first day at the centre, Tod engaged in two play activities which attracted my interest:

1) Abacus with 20 beads on each line - He'd manipulated beads so as to form a symmetrical pattern. I was surprised that a four year old could sequence such a number of beads (ordering each line first one, then two, three and so on). I asked him how he did it. "Easy, he said and promptly mixed up beads and then starting on first row at the bottom of the abacus moved over 1 bead. The second row up, he moved over 2 beads to the left. This continued until the fifth row, at which time the children were asked to pack supplies away. While ordering the beads, Tod did not use number labels, but simply moved the beads over - I wondered if he was doing it perceptionally or with an understanding of numerical sequence.



2) On the playground he got a pail of sand and stuck a stick in it. By holding the stick against the side of

the pail, he controlled the flow of sand from pail. Kneeling, keeping his arms outstretched like a compass, he poured the sand from the pail and rotated his body in a circle as he poured, thus creating almost a perfect circle.



After pouring he got up and stood back surveying his circle. He seemed so thoroughly involved in his activity, that I did not interact with him, much as I wanted to know the implication he'd drawn from the experience.

When getting ready to play on Tuesday (putting on shorts for the playground) the teacher brought a starfish out into the hall for the children to examine. Tod with his shorts half on leaped to his feet begging the teacher, "I want to feel it . . I want to feel it . . . " She told him he could feel it once he was ready to go outside. Feverishly, he put on his shorts and then insisted on putting his slacks on top of them. The slacks would not button and he asked me for help, looking down the hall anxiously toward the starfish. As I attempted to button his slacks which wouldn't fit over the shorts, Tod excitedly turned and talked to the other children: "Know what? Starfish live in the water."

On Thursday, April 28th, 1977, I introduced a collection of data via taping (endeavoring to capture Tod's conversation and my running observations on the playground). I had delayed introduction of this equipment until Tod had grown used to my being a part of the centre environment. Other than showing interest as to how the recorder worked (watching the tape turn), how it was turned on and off, and how it recorded, he manifested little concern re my use of it. When other children asked why I was taking such copious notes and taping, I used a reply I'd heard from another grad student, "I want to remember all the interesting things you're doing so I can tell some other kids." This answer tended to satisfy the majority of the children.

Each day I observed the structured activity hour 9:00 - 10:00 (stories, songs, student given puppet plays). While the majority of the five year olds seemed to enjoy these activities, the three and four year olds spent most of the time squirming and endeavoring to attract the attention of other children or engaging in self-manipulative activities. The restlessness of these children caused the teacher to make frequent requests for attention. Thus, the attention of the five year olds rapidly diminished in spite of excellent teacher effort.

Observing the children in structured setting as compared with free play and self selected activity, provided real contrast in terms of child involvement.

While we as adults and teachers may feel secure in that we know we are teaching "something", the level of student involvement leaves the question of what is in fact being learned open for debate.

I did not attend the centre on Friday as I had not completed analysis of the data. If the data is to be responsibly analyzed it must be transcribed on the day that it is obtained, interpreted and analyzed as soon as possible.

Monday, May 2nd, 1977: Tod arrived late. When I met him in the morning he was "building a fire" and invited me to join him. I did in the capacity of play tutor - objective - support his cues, extend play and see how he reacts.

While having the "wiener roast", his demands to Doug to "eat longer" were interesting. I wonder if he's trying to parallel the real world time constraints with time dimension in his play (i.e. the time needed to eat a hotdog).

Tuesday, May 3rd, 1977: Another incident today with what appears to be Tod's desire to simulate real world time constraints in his play. He invited Shawn to "come for supper" and was so upset when Shawn assumed that the invitation meant to come immediately. Tod made it very clear that he was still in the process of cooking supper and that the invitation applied to the future time (i.e. when supper was ready).

A really delightful debate broke out today between Tod, Jenny and some of the children relative to the question of Jenny's "sun tan lotion" (baby lotion) being able to keep the bees away.

Wednesday, May 4th, 1977: Analyzed yesterday's data - Some very interesting findings emerged re the nature of the lotion debate. Firstly, Tod drew an analogy, noting that the lotion smelled like honey. Next he used deductive reasoning:

Bees like honey
Therefore bees might like lotion.

Finally, he introduced contradictory evidence, noting that bees like flowers and that the flowers don't smell like honey.

Saturday, May 7th, 1977: Yesterday "George," an imaginary companion appeared in the observations. Strangely, Tod and Doug share him. According to Tod there are definite rules for talking to George (i.e. when Tod says "George?" Doug must answer, "what George?")

Monday, May 16th, 1977: Today when I said good-bye to the children, Tod asked, "Ah, Aren't you coming to watch me eat my cinnamon bun!" So Tod is very much aware of my interest in him. However, when I reflect on the observations, I really don't feel that I have negatively affected the study (i.e. obtrusive observer influence). Perhaps to observe little children effectively, the child needs the security of knowing that the observer is a caring, interested adult.

Am really enjoying collecting the data. Hearing all of my interactions with children on the tape has been valuable for me as a teacher. How often or under what circumstances does a teacher have the opportunity of hearing herself interact with children?

There are so many fascinating topics that seem to demand discussion. I suspect that this study will open up more questions than it will answer. Well that's O.K. too.

Tuesday, May 17th, 1977: So many questions on my mind.

1) How does socio-dramatic play "fit in with" the problem solving and resolving strategies of the child?

2) Is socio-dramatic play, an end within itself or a "means to an end"? Does its function as a "means" or an "end", fluctuate?

3) a. What role does the imaginery character "George" provide for the children (Tod and Doug)?
   b. What are the characteristics of the play when "George" makes his appearance?
   c. How does the principle of egocentric behavior fit in with Tod and Doug's enactment of "George"?

Appendix E: Sample of Data Classification According to Toys, Place, Function or Exploration, and Symbolic Representation

May 10/77	Toys	Place	Function, Exploration	Symbolic Representation
	2 Pop Tins, Sand	Lg. tire are in sand	Filling spout by scooping Shaking to make noise	
	Pail, Tin		Empty tin into pail	
	Book	By Supply Area	Reads book by labelling pictures. Notes familiar experiences (planting, boy like Shawn making candy, ladybug)	
	Pop Tins, Sand	By tires	Filling and pouring sand from one tin to the other	
		Tire	Climbs	Superman
	Broken dish-pan S. Rope		Wears on head. Dangles behind him as he runs	Superman

May 10/77

Toys	Place	Function, Exploration	Symbolic Representation
S. Rope	Top of Tire	Twirls in air (lassoing) Dangles rope.	Shark Hunting
S. Rope	Ground at base of tire.	Jason told to swim to see shark. Coiled S. Rope.	Shark
hoe, skipping rope	Tire	Tie rope to hoe.	Gear for landing shark.
hoe, rope	Ground	Holding onto hoe, twirls rope.	"It flies - it's a bird"
hoe, rope	Ground	Winds rope around hoe, tiny knot at end of rope.	Songbird
Rope		Sucks on rope while surveying surrounding activities.	
Hoe, sand, pail	Sand	Fills pail using digger portion of hoe.	
Hoe, sand	Tunnel	Rakes sand from tunnel.	Cleaning house

May 10/77	Toys	Place	Function, Exploration	Symbolic Representation
	Popsicle stick	Tunnel	Scrapes sand.	Cleaning house.
	Sand, pail	Tunnel	Mixes sand.	
	hoe	Near tunnel	Grips hoe with teeth & lifts hoe to body; then attempts to lift sand in the same manner.	

Appendix F: Sample of Data Classification
According to Problems and Means

May 10/77	Problems	Means
(1)	How can I fill the tin?	(1) Scoop in by dragging tin along sand (2) Using a shovel and pouring in from shovel side.
(2)	What does sand sound like inside tin when shake it?	(3) Shakes tin.
(3)	Where's a pail?	Sorts thru supplies.
(4)	How can I get the sand out of the tin into the pail?	(1) Shake it out (2) Bang tin on side of pail.
(5)	Whats the book about?	Pages thru from back to front labeling famil. items & exper.
(6)	How do they make those candies (marbles) in the book?	Denies possibility.
(7)	Boys don't wear sandals & Pavlov's wearing sandals.	Tell him.
(8)	What's in container?	Look in.

(9)	Can I pour the sand from one pop tin spout into other tin spout?	Pours back and forth.
(10)	I'm up high on the tire. Who am I?	Superman! theme Spots broken dishpan - wears like a hat, drags skipping rope.
(11)	How can I catch a shark?	(1) Throw sr. "fishing line" over tire into "H_2O" (sand). (2) Roll onto tummy to haul shark in. (3) Get Jason to check if he can see the shark. (4) Raise shark on hoe affair.
(12)	What can a s.r. & hoe be?	Changes function creating a bird & then a song bird.
(13)	How can I fill the pail with the different shovel (hoe)?	

(14)	How can I get Serge out of the tunnel while I clean the house?	(1) Tell him to move. (2) Yell at him. (3) Tell the tch. when he knocks me to the ground.
(15)	How can I get Doug to help me clean the house?	(1) Tell Doug. (2) Show him.
(16)	These kids keep coming in the tunnel. I want them to stay out until Doug & I've cleaned the house.	(1) scream angrily (2) explain why (3) Tussle with Doug who enters tunnel (4) As girl invades tunnel, after Tod's been kicked, he whimpers & leaves.
(17)	Where can the boys' ladybug be?	Help him search for it.
(18)	Can I load & lift a load of sand by holding the handle by my teeth?	Attempt exper. - inter. by Doug's activity.

Appendix G: Samples of Recurring Pattern Summation

Egocentric View of Insects

Apology to worm "I'm sorry I have tah put you in the other boat!" (May 20th)

I thought I saw him stick his tongue out! (May 20th)

whispers to the worm as he carries it (May 20th)

gives worms a slide ride! (May 20th)

worm crawls onto his hand. Look, its sitting on me! (May 20th)

kisses the worm (May 20th)

April 26th - "Hey, there's a spider chasing us!"

Information: Awareness of Reading or Pre-Reading Behaviors

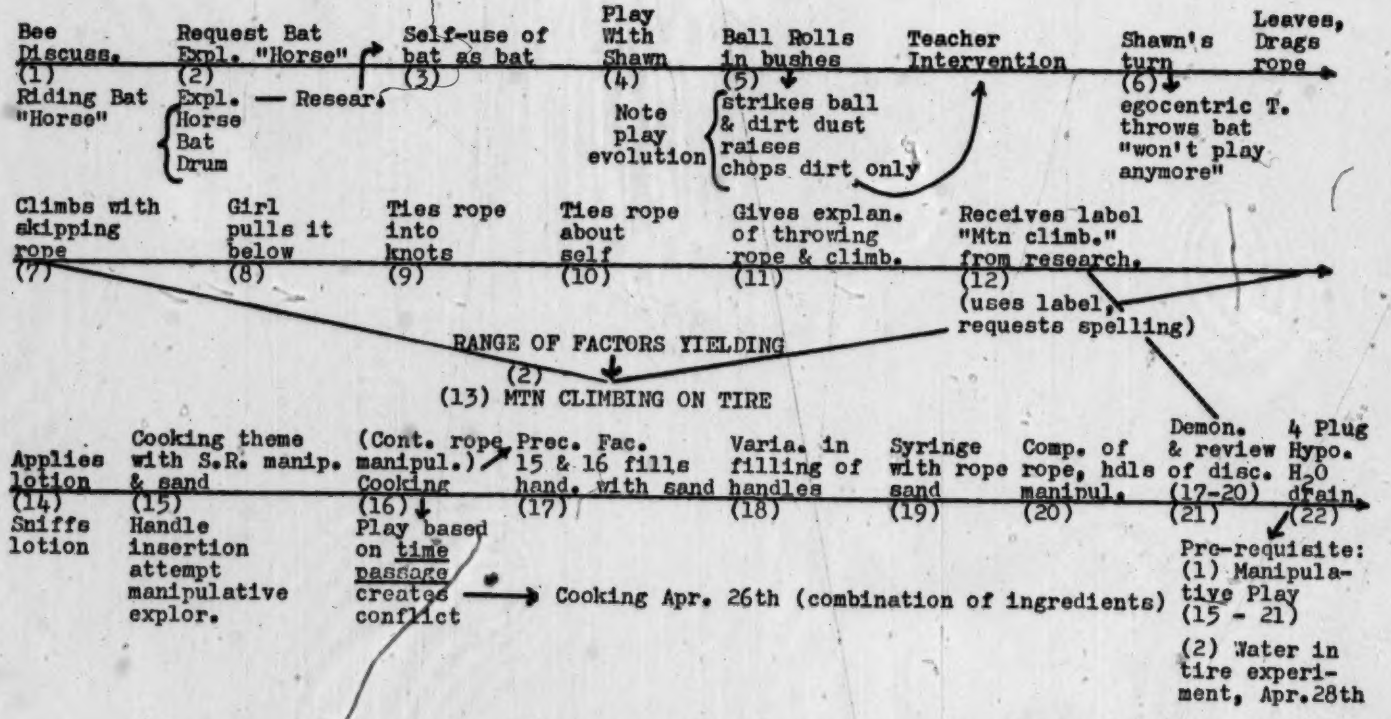
(1) notes "o" in Doug's name, May 11th

(2) when name changed in position on paper, believes "wrong name".

(3) Knowledge of Spelling - "word" May 3rd. Compare with his reading pictures, May 10th from book.

Appendix H: Time Line (May 3rd, 1977)

PRECIPITATING FACTORS
CREATING THEME
INFERENCE: PLAY NOT RANDOM


Bee Discuss. (1)
Riding Bat "Horse"
Request Bat Expl. "Horse" (2)
Expl. — Resear.
Horse
Bat
Drum
Self-use of bat as bat (3)
Play With Shawn (4)
Note play evolution
Ball Rolls in bushes (5)
strikes ball & dirt dust raises
chops dirt only
Teacher Intervention
Shawn's turn (6)
egocentric T. throws bat "won't play anymore"
Leaves, Drags rope
Climbs with skipping rope (7)
Girl pulls it below (8)
Ties rope into knots (9)
Ties rope about self (10)
Gives explan. of throwing rope & climb. (11)
Receives label "Mtn climb." from research. (12)
(uses label, requests spelling)
RANGE OF FACTORS YIELDING
(2)
(13) MTN CLIMBING ON TIRE
Applies lotion (14)
Sniffs lotion
Cooking theme with S.R. manip. & sand (15)
Handle insertion attempt manipulative explor.
(Cont. rope manipul.) Cooking (16)
Play based on time passage creates conflict
Cooking Apr. 26th (combination of ingredients)
Prec. Fac. 15 & 16 fills hand. with sand (17)
Varia. in filling of handles (18)
Syringe with rope sand (19)
Comp. of rope, hdls manipul. (20)
Demon. & review of disc. (17-20) (21)
4 Plug Hypo. H2O drain. (22)
Pre-requisite:
(1) Manipulative Play (15 - 21)
(2) Water in tire experiment, Apr.28th